

SAMSUNG



COLOR LASER PRINTER Setup Guide

CLP 510 Series

For UK customers:

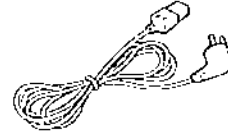
To reorder your consumables
Call 0800 3164060
For Technical Assistance
Call 0870 2420303

Step 1. Unpacking

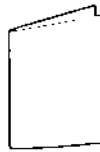
- 1 Remove the printer and all of the accessories from the packing carton. Make sure that the printer has been packed with the following items:



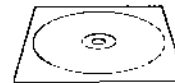
Toner Cartridges



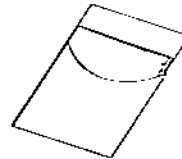
Power Cord



Quick Install Guide



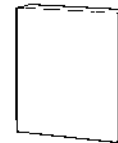
CD-ROM



Optimum Setup Guide



SyncThru CD-ROM
(CLP-510N only)



SyncThru Quick Guide
(CLP-510N only)



NOTES:

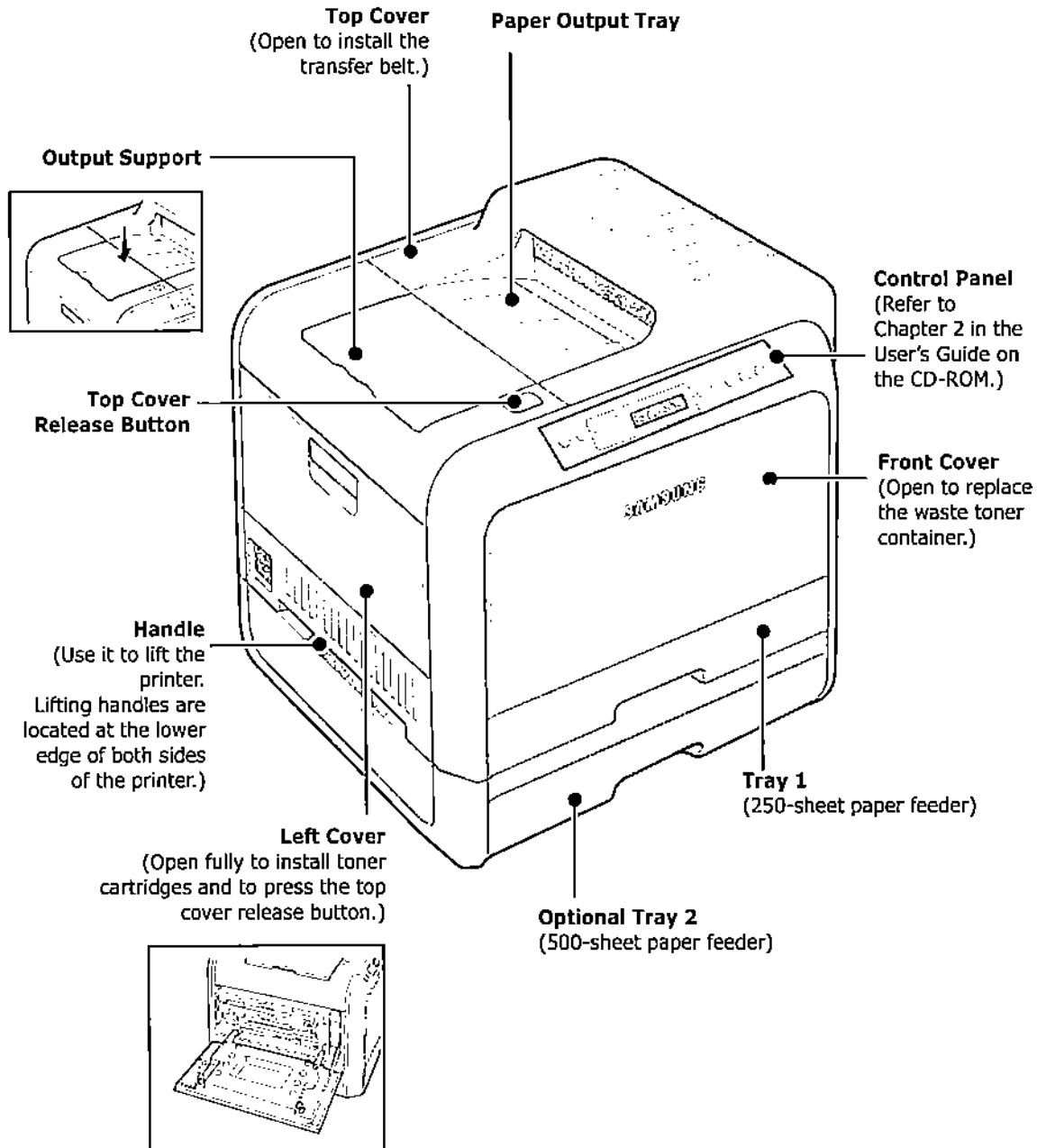
- If any items are missing or damaged, notify your dealer immediately.
- **Components may differ from one country to another.**
- The CD-ROM contains the printer driver, the User's Guide, and the Adobe Acrobat Reader program.
- The power cord may be different depending on your country.



CAUTION: This printer weighs 32kg including developer cartridge and cassette. Use safe lifting and handling techniques. If you need to move the printer it should be moved by two people. Use the lifting handles located, as shown in the diagram (see page 5). Back injury could result if a single person attempts to lift the printer.

Step 2. Understanding Your Printer

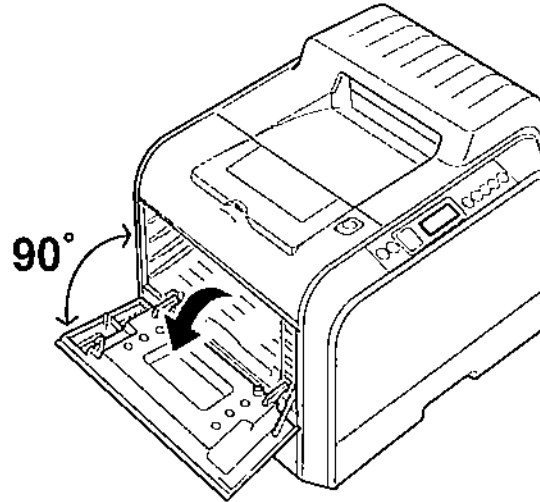
These are the main components of your printer:



NOTE: The surface of the output tray may become hot if you print a large number of pages at once. Please make sure that you don't touch the surface, and prevent children from approaching it.

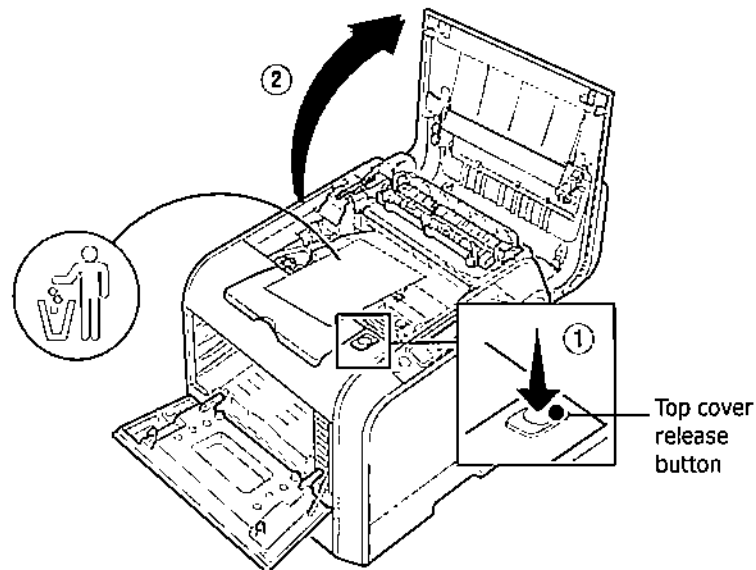
Step 3. Installing the Transfer Belt and Toner Cartridges

- 1 Using the handle, completely open the left cover until it is at right angles to the main frame.

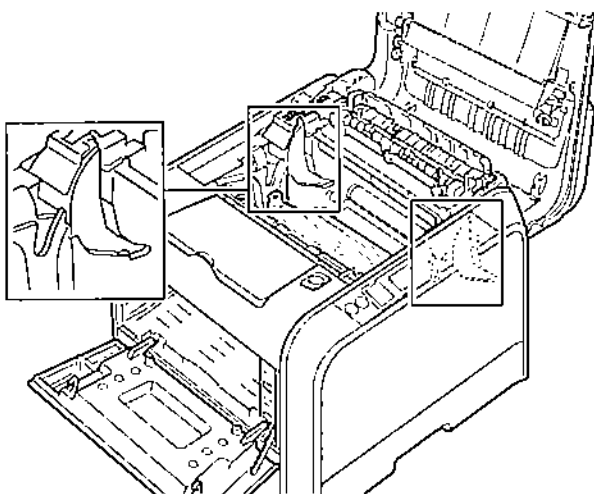


CAUTION: If the left cover is not completely open, the top cover release button will remain locked.

- 2 Press the top cover release button to unlatch the top cover and open it all the way. Remove the label on the transfer belt.

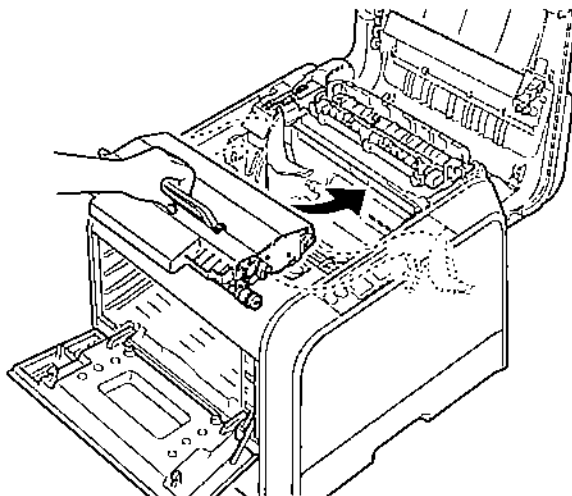


- 5 Locate the transfer belt slots inside the printer, one on each side.



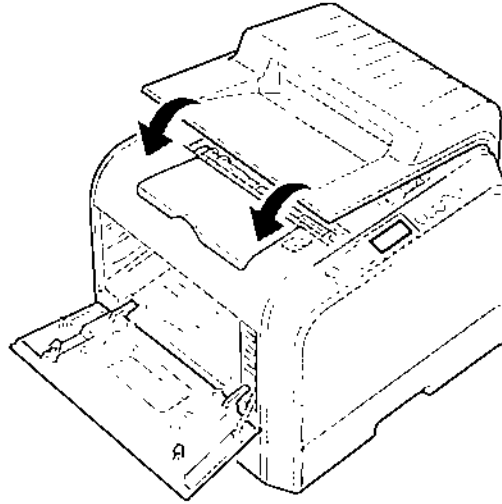
CAUTION: To prevent damage, do not expose the imaging unit to light for more than a few minutes. Close the top and left covers should the installation need to be halted for any reason.

- 6 Holding the handle on the transfer belt, align it with the slots on either side of the inside of your printer.



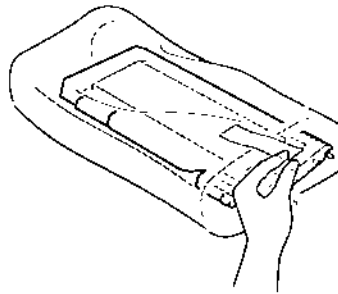
NOTE: Keep the transfer belt level. Do not turn the transfer belt over, or loose toner may be spilled.

- 9 After making sure that the left cover is open, close the top cover. Make sure that it is securely latched.



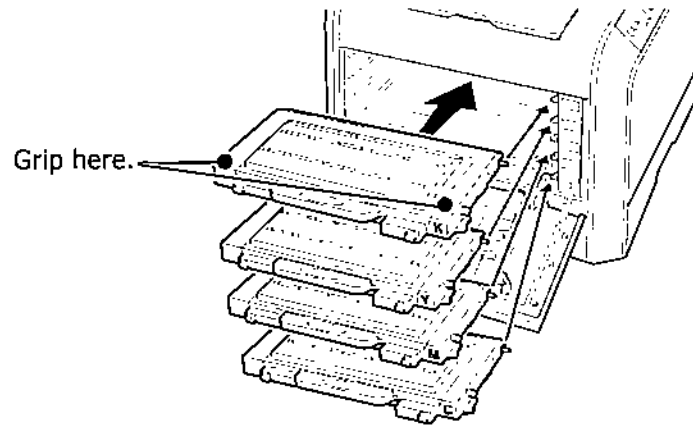
CAUTION: Do not try to close the left cover with the top cover open. This may cause damage to the printer.

- 10 Take the toner cartridges out of their packages.



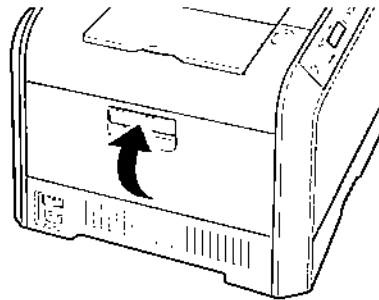
CAUTION: Do not use sharp objects, such as a knife or scissors, to open the toner cartridges packages. You could damage the surface of the toner cartridges.

- 14** Holding each toner cartridge with both hands, insert them into their corresponding positions in the following order: Cyan, Magenta, Yellow, and then Black. Then use the handle to fully slide the cartridge in.



When the toner cartridges are correctly installed, the yellow and black cartridges will not be fully inserted. These will automatically move into place when you close the left cover.

- 15** Close the left cover. Make sure that it is securely latched.

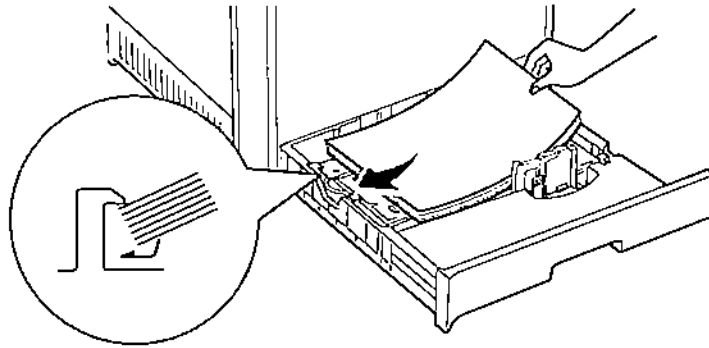


If you have installed the toner cartridges incorrectly, the left cover will not close properly. Check again to make sure the cartridge colors correspond to those marked on the right hand side. Never force the cover closed.

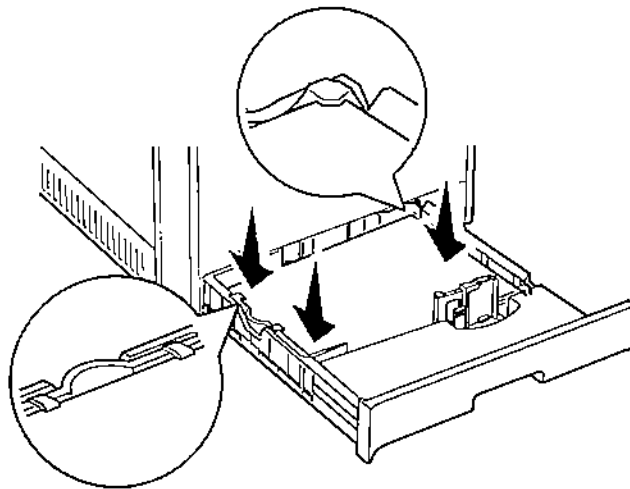


NOTE: When printing text at 5% coverage, you can expect a toner cartridge life of about 3,000 pages or 7,000 pages for black and 2,000 pages or 5,000 pages for color. However, the toner cartridge that is shipped with the printer prints 3,000 pages for black and white, 2,000 pages for color.

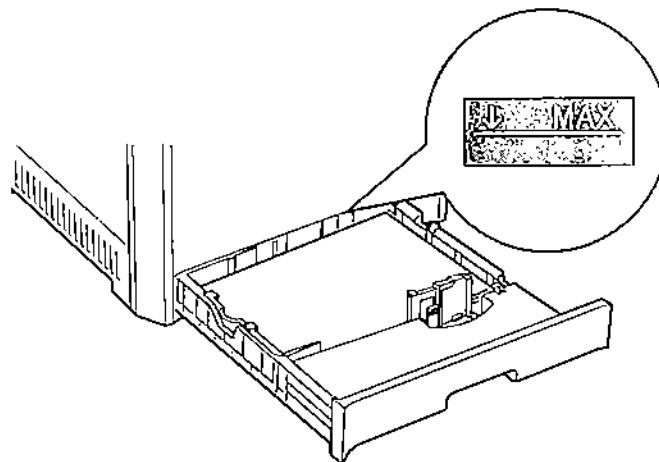
- 4** Load paper with the print side facing up.



Make sure that all four corners are flat in the tray and under the corner brackets, as shown below.



- 5** Do not exceed the maximum stack height. Overfilling the tray may cause a paper jam.



Step 5. Connecting a Printer Cable

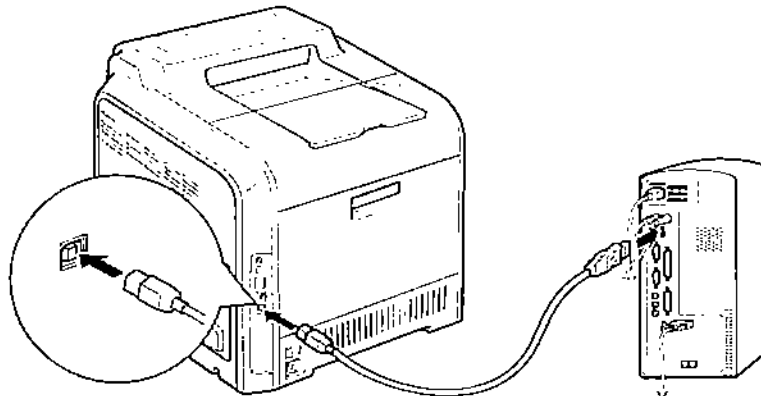
For Local Printing

To print from your computer in a local environment, you need to connect your printer to the computer with a Universal Serial Bus (USB) cable.



NOTE: Connecting the printer to the USB port of the computer requires a certified USB cable. You will need to buy a USB 2.0 compliant cable that is 3m or less in length.

- 1 Make sure that both the printer and the computer are turned off.
- 2 Plug the USB printer cable into the connector on the back of the printer.



- 3 Connect the other end of the cable to the USB port on your computer.

See your computer's User's Guide, if you need help.



NOTE: To print using the USB interface, you must run Windows 98/Me/2000/2003/XP. See "Installing Printer Software in Windows" on page 22.

Using a network antenna

If you install a wired/wireless network card, you can use your printer in a wireless environment.

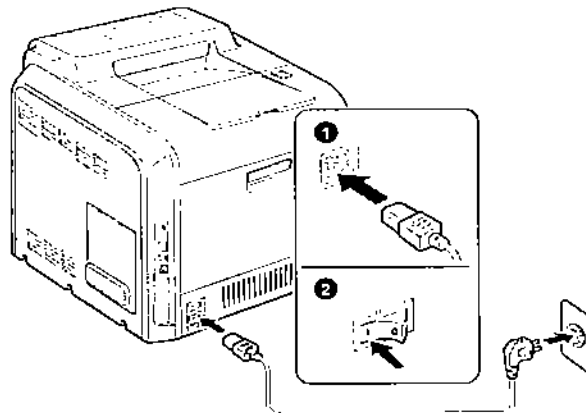
For details about installing a wired/wireless network card, see your printer's User's Guide on the CD-ROM.



NOTE: After connecting the printer, you need to configure the network parameters on the control panel. See your printer's User's Guide. You can use the software supplied with the card. Refer to the software User's Guide.

Step 6. Turning the Printer On

- 1 Plug the power cord into the power receptacle on the back of the printer.
- 2 Plug the other end into a properly grounded AC outlet and turn on the power.



CAUTIONS:

- Some parts inside of the printer may be hot when power is on, or after printing. Be careful not to burn yourself when working inside the printer.
- Do not disassemble the printer when it is turned on or plugged in. Doing so may give you an electric shock.

Step 9. Installing the Printer Software

The supplied CD-ROM contains Windows printing software, Macintosh printing software, Linux printing software, on-line User's Guide, and Acrobat Reader to view the User's Guide.

If you are printing from Windows:

You can install the following printer software using the CD-ROM.

- **Printer driver** for Windows. Use this driver to take full advantage of your printer's features. See page 22.
- **Status Monitor.** Appears when printing errors occur. For details, refer to chapter 5 in your printer's User's Guide on the CD-ROM. For help in viewing the User's Guide, see page 30.

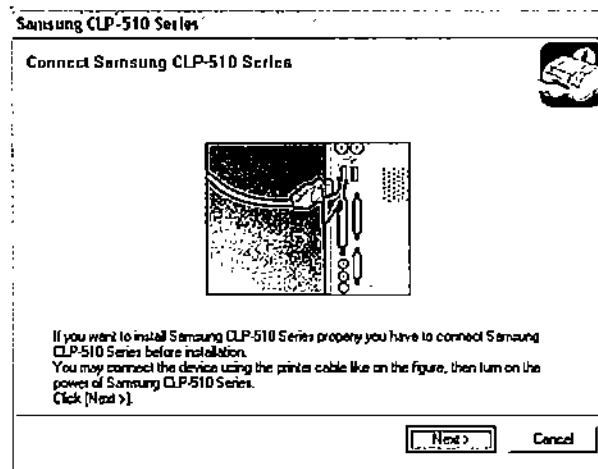
If you are printing from Macintosh:

For information about installing the print software and printing from a Macintosh, refer to Appendix A in your printer's User's Guide. For help in viewing the User's Guide, see page 29.

If you are printing in Linux:

For information about installing the Linux driver, refer to Appendix B in your printer's User's Guide. For help in viewing the User's Guide, see page 30.

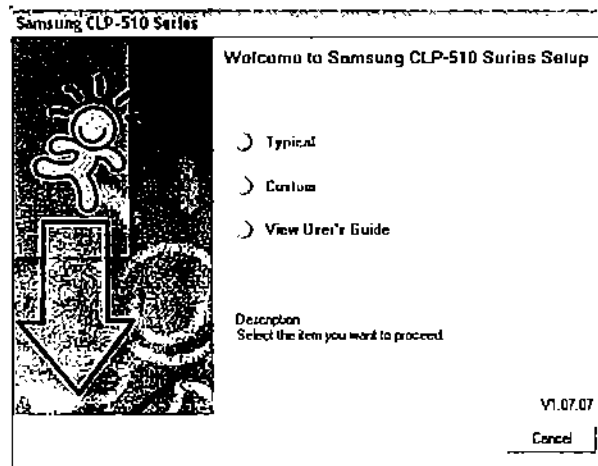
- 2 If your printer is not already connected to the computer, when the following window opens, connect your printer to the computer and turn the printer on. Then click **Next**.



▲ Windows XP

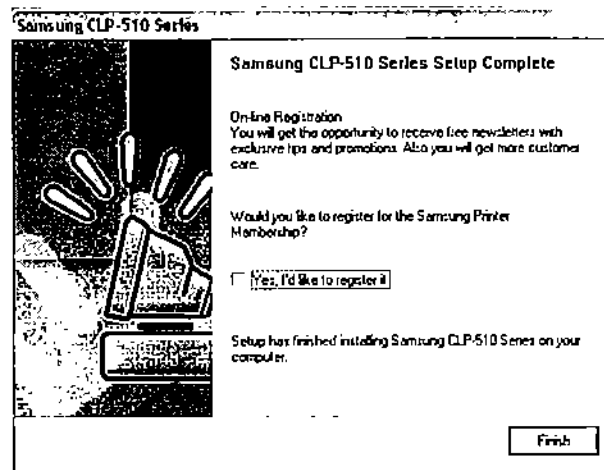
If the printer is already connected and turned on, this screen will not appear. Skip to the next step.

- 3 Choose the installation type.



- **Typical:** Installs the common software for your printer and User's Guide. This is recommended for most users.

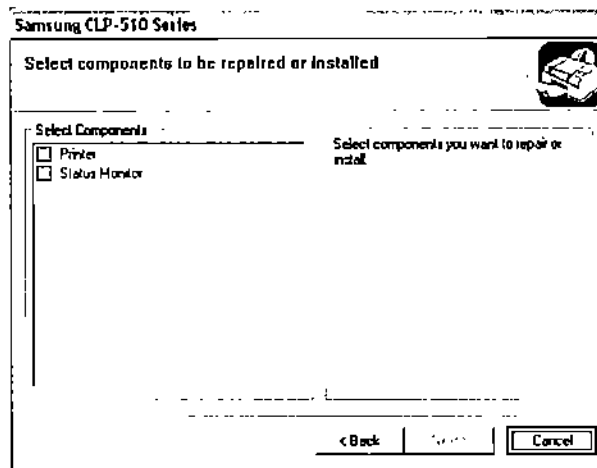
Otherwise, just click **Finish**.



NOTES:

- If your printer doesn't work properly, reinstall the printer driver.
- You can also print from Macintosh or Linux. For detailed information, refer to your printer's User's Guide on the CD-ROM.
- After installation of the software, you can reinstall or remove the printer software, if necessary. Also, you can change the display language. For detailed information, see page 26~28.

- 4 Select the components you want to install and click **Next**.



If you select **Printer**, the window asking you to print a test page appears. Do as follows:

- a. To print a test page, select the check box and click **Next**.
- b. When the test page prints out correctly, click **Yes**.
If it doesn't, click **No** to reprint it.

- 5 When the reinstallation is done, click **Finish**.

Removing Printer Software

- 1 From the **Start** menu, select **Programs Samsung CLP-510 Series**.

Or place the CD-ROM into the CD-ROM drive.

- 2 Select **Maintenance**.

- 3 Select **Remove**.

You will see a component list so that you can remove components individually.

If you want to uninstall the printer driver, check **Printer**.

If you want to uninstall the Status Monitor, check **Status Monitor**.

Step 10. Viewing the User's Guide

The Samsung CLP-510 Series User's Guide, which is on the software CD-ROM, is in Adobe Acrobat PDF format. The manual will provide you flexibility and convenience in accessing information.

You can view the manual on-screen in different formats (viewing a single page, continuous single page or continuous facing page, zooming in up to 1600% or out up to 12.5%, scrolling two-up page or article flow). You can also print the manual, if necessary.

In Windows

- 1 From the **Start** menu, select **Programs**.
- 2 Select **Samsung CLP-510 Series** and **View User's Guide**.

Adobe Acrobat automatically runs and then the User's Guide opens.

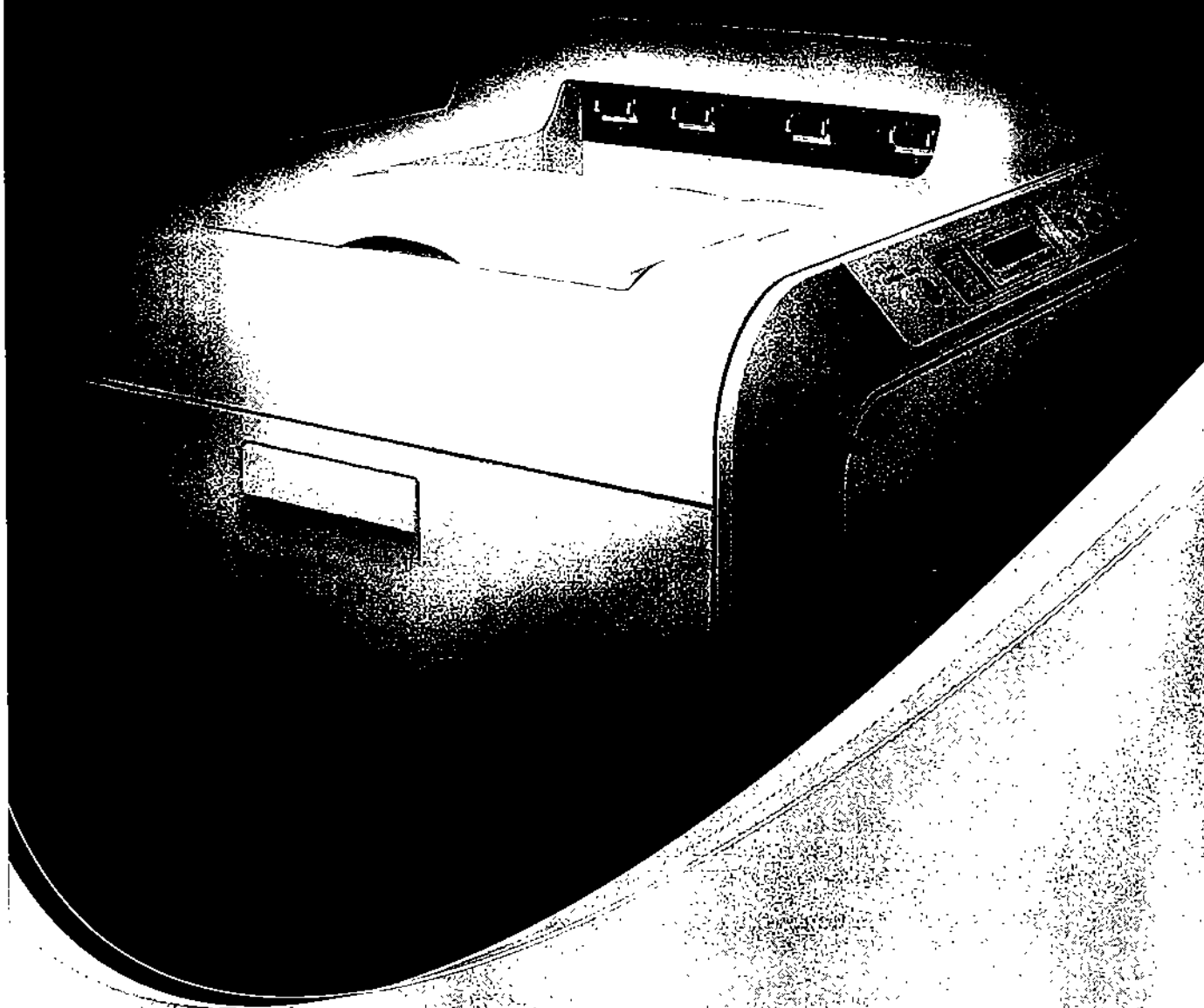


NOTE: If your computer doesn't have Adobe Acrobat, selecting the **View User's Guide** option automatically installs Adobe Acrobat for you. After installation is complete, repeat step 1 and 2.

In Macintosh

- 1 Place the CD-ROM in the CD-ROM drive.
- 2 Double-click **SAMSUNG_CLP** on your Macintosh desktop.
- 3 Double-click **Manual** folder.
- 4 Double-click the appropriate language folder.
- 5 Double-click **Guide.pdf**. The Adobe Acrobat programme opens and you can view the User's Guide.

SAMSUNG



COLOR LASER PRINTER User's Guide

CLP 340 Series

For UK customers:

To reorder your consumables
Call 0800 3164060
For Technical Assistance
Call 0870 2420303

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Ozone Safety



During normal operation, this machine produces ozone. The ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

If you need additional information about ozone, please contact your nearest Samsung dealer.

Recycling



Please recycle or dispose of packaging materials for this product in an environmentally responsible manner.

Radio Frequency Emissions

FCC regulations

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.



CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

Declaration of Conformity (European Countries)

Approvals and Certifications



The CE marking applied to this product symbolises Samsung Electronics Co., Ltd. Declaration of Conformity with the following applicable 93/68/EEC Directives of the European Union as of the dates indicated:

January 1, 1995: Council Directive 73/23/EEC Approximation of the laws of the member states related to low voltage equipment.

January 1, 1996: Council Directive 89/336/EEC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

March 9, 1999: Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

EC Certification

Certification to 1999/5/EC Radio Equipment & Telecommunications Terminal Equipment Directive (FAX)

This Samsung product has been self-certified by Samsung for pan-European single terminal connection to the analogue public switched telephone network (PSTN) in accordance with Directive 1999/5/EC. The product has been designed to work with the national PSTNs and compatible PBXs of the European countries:

In the event of problems, you should contact the Euro QA Lab of Samsung Electronics Co., Ltd. in the first instance.

The product has been tested against TBR21 and/or TBR 38. To assist in the use and application of terminal equipment which complies with this standard, the European Telecommunication Standards Institute (ETSI) has issued an advisory document (EG 201 121) which contains notes and additional requirements to ensure network compatibility of TBR21 terminals. The product has been designed against, and is fully compliant with, all of the relevant advisory notes contained in this document.

European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a printer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz band, may be present (embedded) in your printer system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

extremities) is typical. This device should be used more than 20 cm (8 inches) from the body when wireless devices are on and transmitting.

This transmitter must not be collocated or operation in conjunction with any other antenna or transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed below:



Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. 802.11B (also known as wireless Ethernet) and Bluetooth communication devices are examples of devices that provide wireless communication.



In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.



Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.



If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.



Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.



Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

MEMO

Special Features

Your new printer is equipped with several special features that improve the print quality. You can:



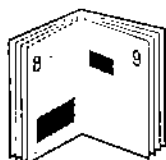
Print in color with excellent quality and speed

- You can print in a full range of colors using cyan, magenta, yellow, and black.
- You can print up to 1200 x 1200 dpi (effective output). See page 4.9.
- In black & white mode, your printer prints A4-sized paper at 24 ppm and letter-sized paper at 25 ppm (pages per minute). In color mode, A4/ letter-sized paper prints at 6 ppm.
- In duplex printing, your printer prints A4/Letter sized paper at 11.6 IPM (images per minute) for black & white and 6 IPM for color.



Flexible paper handling

- The **Standard 250-sheet input tray** (Tray1) and **optional 500-sheet input tray** (Tray2) supports A4/letter-sized paper.
- The **Multi-purpose Tray** supports letterhead, envelopes, labels, transparencies, custom-sized materials, postcards, and heavy paper. The **Multi-purpose Tray** also supports up to 100 sheets of plain paper.

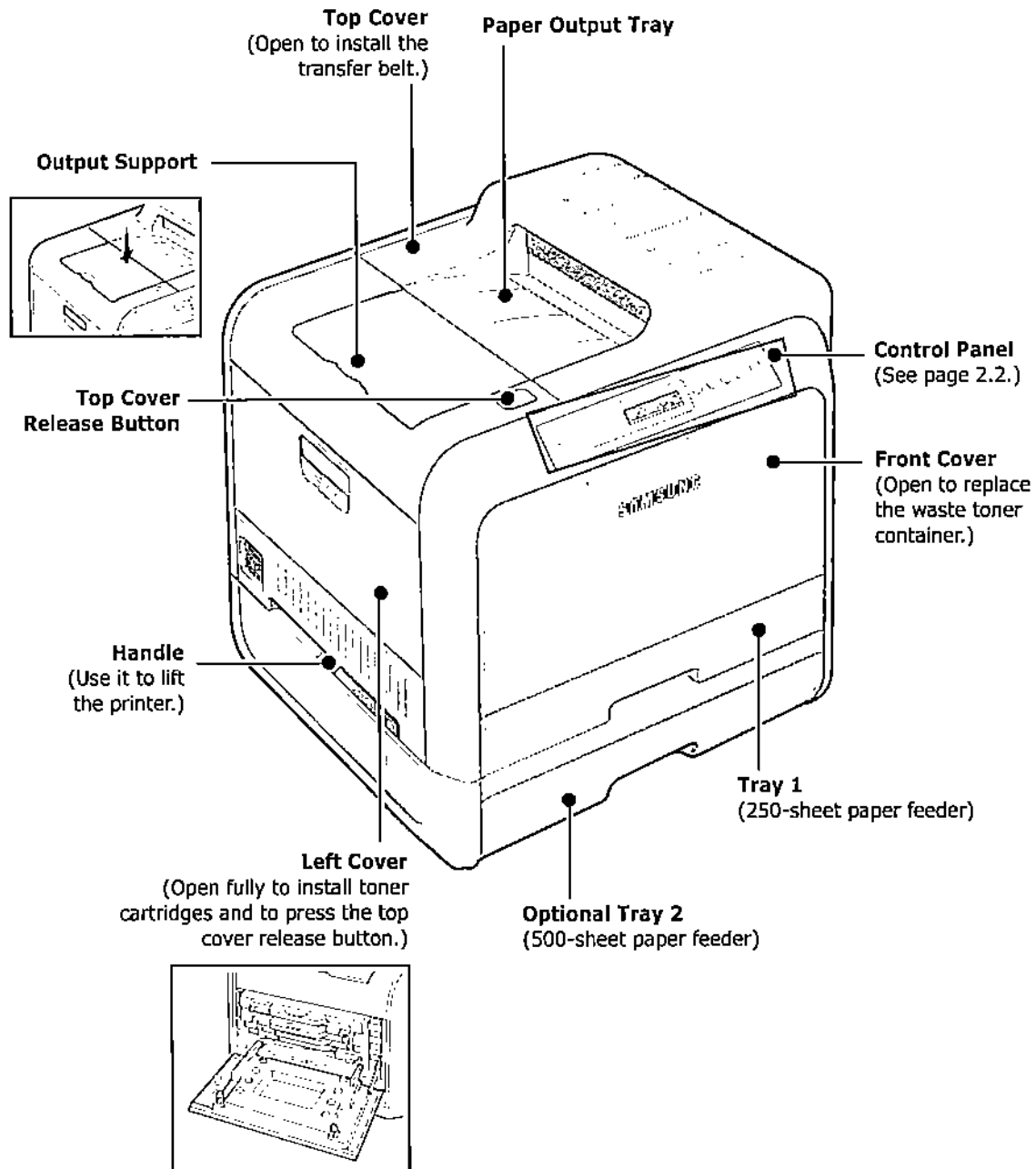


Create professional documents

- Print **Watermarks**. You can customize your documents with a watermark, such as the word "Confidential." See page 5.10.
- Print **Booklets**. This feature enables you to easily print a document to create a book. Once printed, all you have to do is to fold and staple the pages. See page 5.9.
- Print **Posters**. The text and pictures of each page of your document can be magnified and printed across several sheets of paper and taped together to form a poster. See page 5.7.

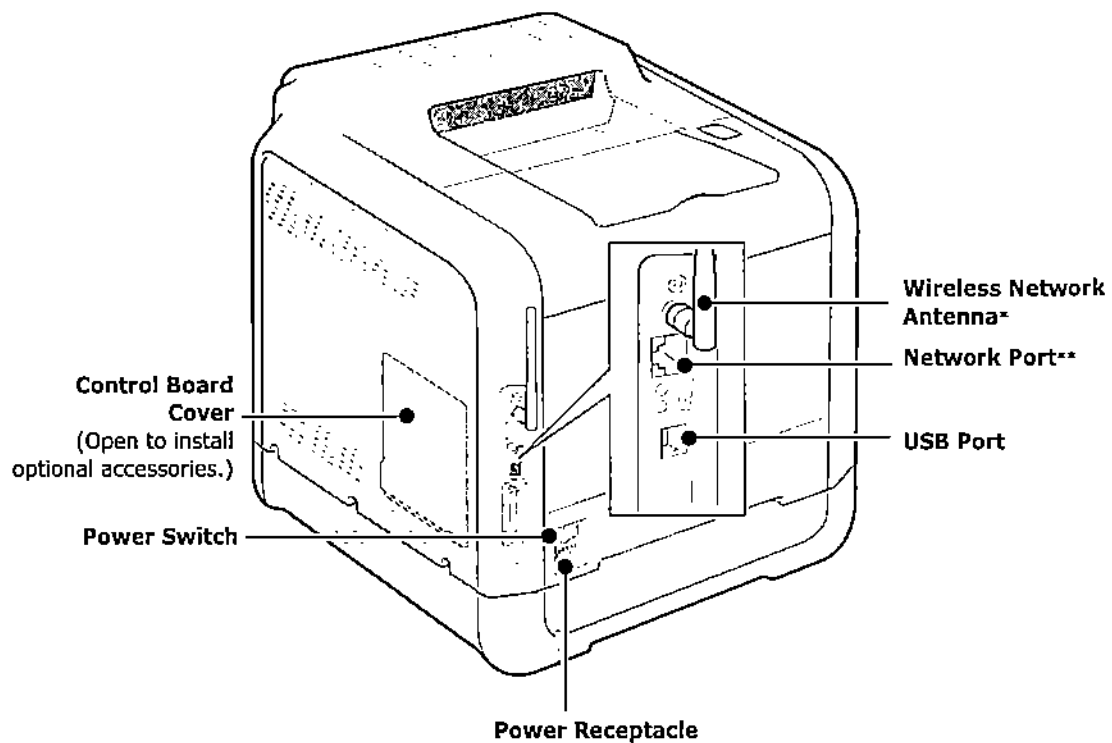
Printer Components

Front View



NOTE: The surface of the output tray may become hot if you print a large number of pages at once. Please make sure that you don't touch the surface, and prevent children from approaching it.

Rear View



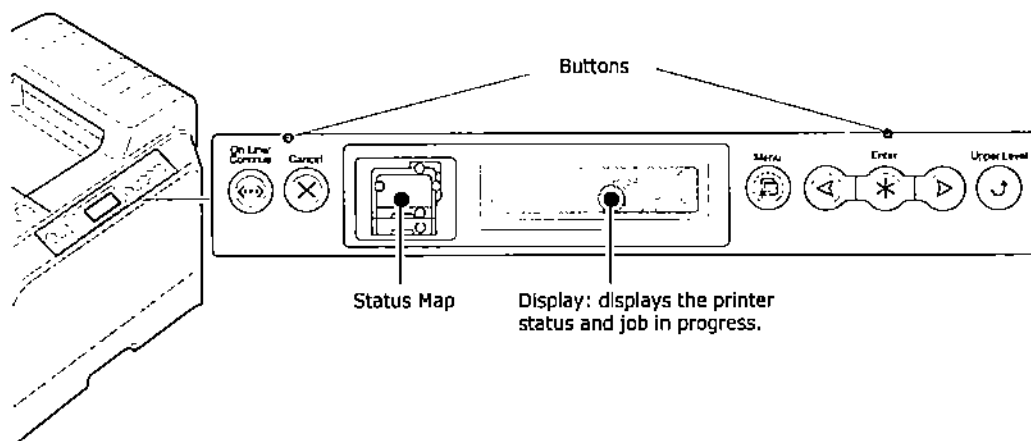
** A wireless network card is not supplied with the printer. It is an option that must be purchased and installed separately.*

*** The network port is fitted as standard on the CLP-510N. CLP-510 users can purchase and install an optional network card separately. For details, see page D.7.*



Understanding the Control Panel








The control panel on the top right side of your printer has a display and seven buttons.



Display

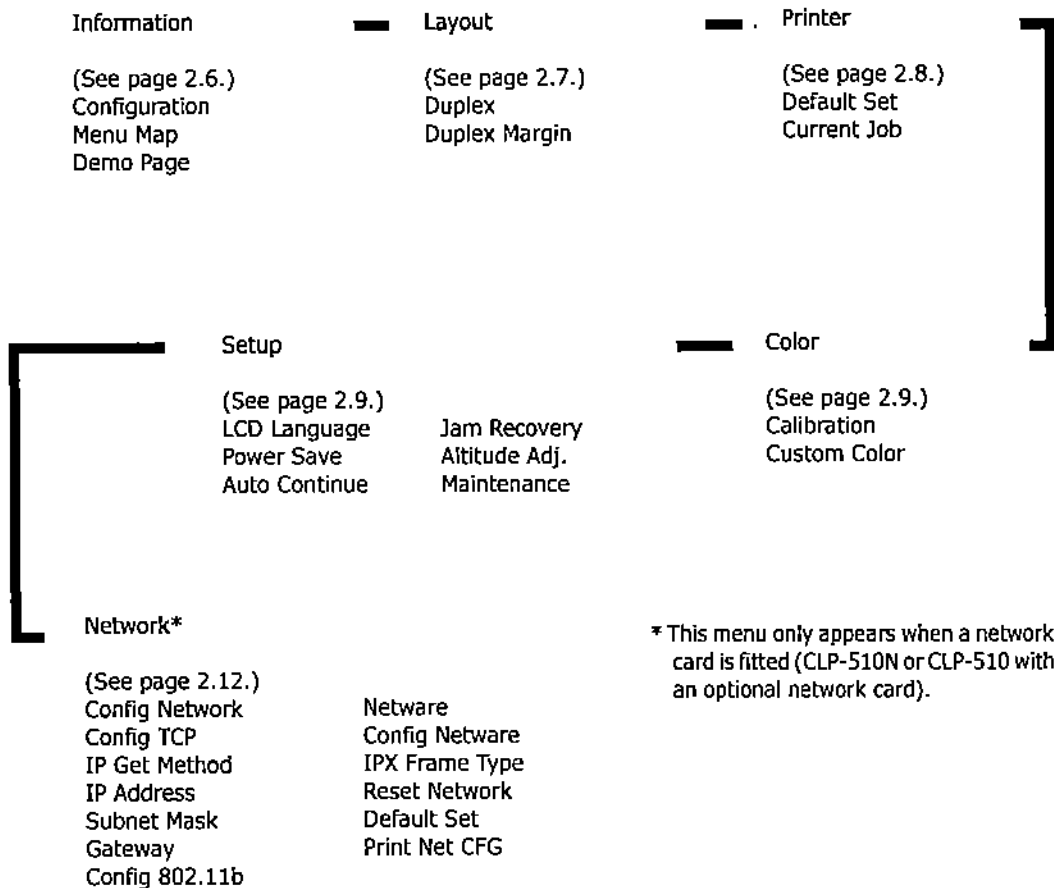
Display Message	Meaning
Ready	<ul style="list-style-type: none">• The printer is on-line and ready to print.• If you press On Line/Continue, the printer goes to off-line.
Offline	<ul style="list-style-type: none">• The printer is off-line and cannot print.• If you press On Line/Continue, the printer switches to on-line.
Processing...	<ul style="list-style-type: none">• The printer is printing.• If you want to stop printing, press Cancel.
Sleeping...	<ul style="list-style-type: none">• The printer is in Power Save mode, using less power. When a print job is received from the computer, or if any button is pressed, the printer switches to on-line.• To deactivate the Power Save mode or change the power-saving time, see page 2.9.

See "Understanding Display Messages" on page 7.26 for a complete listing of all printer messages.

Buttons	Description
Enter 	In menu mode, press to select the displayed sub menu item or to confirm the changed setting. The selected item is marked with an *.
 	In menu mode, press to scroll through sub menu items or setting options. Pressing  moves you to the next option and pressing  sends you back to the previous option.
Cancel 	<ul style="list-style-type: none"> • Press to cancel the current print job. • In menu mode, press to return to ready mode.
Upper Level 	In menu mode, press to go back to the upper menu level.

Overview of Control Panel Menus

The control panel menus are used to configure the printer. The control panel provides access to the following menus:



Information Menu

This menu contains information pages that you can print to give details about the printer and its configuration.

Menu Item	Description
Configuration	The configuration page shows the printer's current configuration. See page 6.2.
Menu Map	The menu map shows the layout and current settings of the control panel menu items.

Item	Explanation
Duplex Margin	<p>In this menu, you can set the margins for double-sided printing. You can increase or decrease the value in 0.1mm increments.</p> <ul style="list-style-type: none"> • Top Margin: Set the top margin, from 0.0mm to 9.9mm. • Left Margin: Set the left margin, from 0.0mm to 9.9mm. • Short Binding: Set the bottom margin of the back of the page for short binding, from 0.0mm to 10mm. <u>Binding position:</u> In portrait orientation, appears in the upper line of the page. In landscape orientation, appears on the right side of the page. • Long Binding: Set the right margin of the back of the page for long binding, from 0.0mm to 22mm. <u>Binding position:</u> In portrait orientation, appears on the left side of the page. In landscape orientation, appears in the upper line of the page.

Printer Menu

This menu allows you to reset the printer settings or cancel the current job.

Item	Explanation
Default Set	This menu item allows you to restore the printer's factory default settings.
Current Job	You can cancel the current print job and remove it from the printer buffer.

Item	Description
Power Save	<p>Options: 5 Minutes, 10 Minutes, 15 Minutes, 30 Minutes, 45 Minutes, 60 Minutes, 120 Minutes * 30 Minutes for USA, 120 Minutes for Europe</p> <p>When the printer does not receive data for an extended period of time, power consumption is automatically lowered. You can set how long the printer waits before going to power save.</p>
Auto Continue	<p>Options: Off, On*</p> <p>This item determines whether or not the printer continues printing when it detects paper notmatched to your paper setting.</p> <ul style="list-style-type: none"> • Off: If a paper mismatch occurs, the message remains on the display and the printer remains off-line until you insert the correct paper. • On: If the paper is mismatched, an error message displays. The printer goes off-line for 30 seconds then automatically clears the message and continues printing.
Jam Recovery	<p>Options: Off*, On</p> <p>This item determines how the printer behaves when a paper jam occurs.</p> <ul style="list-style-type: none"> • Off: The printer does not reprint pages. Printing performance might be increased with this setting. • On: The printer automatically reprints pages after you clear the paper jam.
Altitude Adj.	<p>Options: Low*, High</p> <p>You can optimize the print quality according to your altitude.</p>

Network Menu

This menu lets you configure the network interface card installed in your printer according to how the network is set up. You can upgrade the firmware of the network interface card, and print the configuration.



NOTE: This menu only appears when a network card is fitted (CLP-510N, or CLP-510 with an optional network card).

(*: the default setting)

Item	Description
Config Network	<p>Options: Yes, No*</p> <p>Sets whether or not you configure the network.</p> <p>If you select Yes, you can configure the TCP/IP and Netware menus.</p> <p>If you select Yes, the following options are available: Config TCP, Config 802.11b, and Netware.</p>
Config TCP	<p>Options: Yes, No*</p> <p>Select whether you set the IP address or not.</p> <p>If you select Yes, you can configure the IP address.</p> <p>If you select Yes, the IP Get Method option appears on the display. You can select how to get the IP address.</p>
IP Get Method	<p>Options: Static*, BOOTP, DHCP</p> <p>You can set this item only when you set the Config TCP to Yes.</p> <ul style="list-style-type: none">• BOOTP: The BOOTP server allots the IP address to you automatically.• DHCP: The DHCP server allots the IP address to you automatically.• Static: You can enter IP address, subnetmask, and gateway manually.

Item	Explanation
Netware	<p>Options: On*, Off</p> <p>You can select whether or not to use the Netware protocol.</p> <p>If you select On, you can access the Config Netware menu item.</p> <p>In the Config Netware menu, you can specify the frame type parameter used on your network.</p>
Config Netware	<p>Options: Yes, No*</p> <p>You can set this item only when you set Netware to On. This item lets you select whether or not you set the frame type parameter. Select Yes to select the frame type.</p> <p>If you select Yes, the IPX Frame Type option appears on the display.</p>
IPX Frame Type	<p>Values: Auto*, EN_8022, EN_8023, EN_II, EN_SNAP</p> <p>You can select this item only when you set Config Netware to Yes. This item lets you select the IPX Frame Type.</p> <ul style="list-style-type: none"> • Auto: You can set the frame type automatically. • EN_8023: Select this value to use the IEEE 802.3 frame type. • EN_II: Select this value to use the ETHERNET II frame type. • EN_8022: Select this value to use the IEEE 802.2 frame type. • EN_SNAP: Select this value to use the SNAP frame type.
Reset Network	This item reboots the network interface card.
Default Set	This item performs a simple reset and restores the factory default for the network configuration.
Print Net CFG	This item prints a page showing the network parameters you set.



Choosing Paper and Other Materials

You can print on a variety of print materials, such as plain paper, envelopes, labels, transparencies, and so on. See "Printing on Special Print Materials" on page 3.14. To get the best possible print quality, use only high-quality, copier-grade paper.

When you choose print materials, consider the following:

- **Desired outcome:** The paper you choose should be appropriate for the project.
- **Size:** You can use any size paper that fits easily within the paper adjusters of the paper tray.
- **Weight:** Your printer supports paper weights as follows:
 - 16~24lbs (60~90g/m²) bond for Tray 1 or optional Tray 2
 - 16~43lbs (60~163g/m²) bond for the Multi-purpose Tray
 - 20~24lbs (75~90g/m²) bond for duplex printing
- **Brightness:** Some papers are whiter than others and produce sharper, more vibrant images.
- **Surface smoothness:** The smoothness of the paper affects how crisp the printing looks on the paper.



CAUTION: Using a material that does not conform to the specifications listed on page E.7 can cause problems that may require service. This service will not be covered by the warranty or service agreements.

Sizes and Capacities

Paper Type	Number of Sheets Supported			
	Tray 1	Tray 2 (Optional)	Multi-Purpose Tray	Total
Plain Paper	250	500	100	1
Envelopes	—	—	10	1
Labels**	—	—	10	1
Transparencies**	—	—	30	1
Card stock**	—	—	10	1

*Depending on paper thickness, maximum capacity may be reduced.

** If you are experiencing excessive jamming, feed one sheet at a time through the Multi-purpose Tray.

Loading Paper

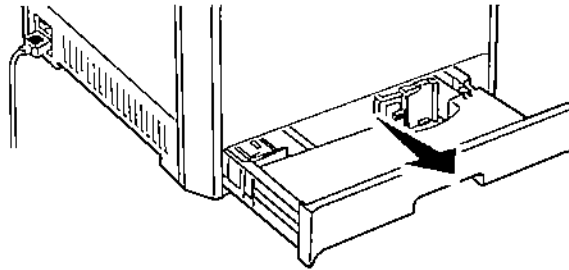
Proper paper loading helps prevent paper jams and ensures trouble-free printing. Do not remove the paper tray while a job is printing. Doing so may cause a paper jam. See “Sizes and Capacities” on page 3.2 for acceptable paper capacities for each tray.

Using Tray 1

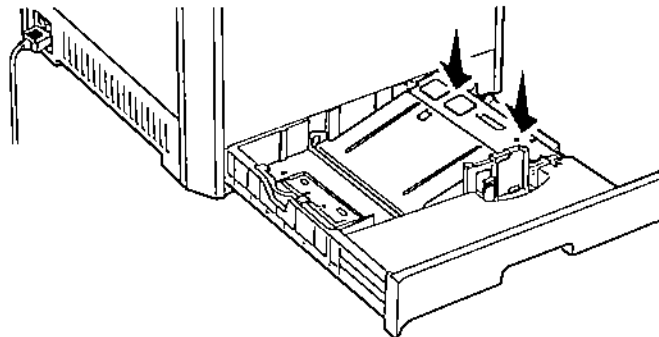
Tray 1 can hold a maximum of 250 sheets of plain A4 and letter-sized paper.

You can purchase an optional tray, Tray 2, and attach it below Tray 1, to load an additional 500 sheets of paper.

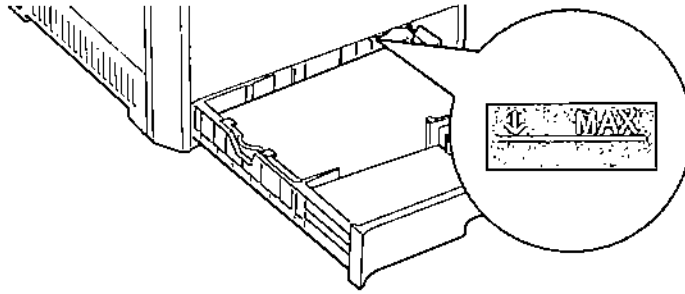
- 1 Pull the tray out of the printer.



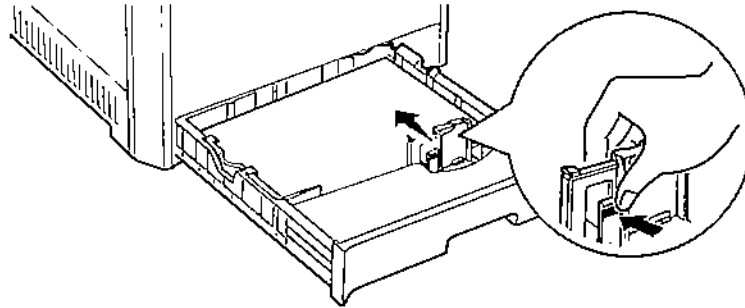
- 2 Push down on the metal plate until it locks into position.



- 5** Do not exceed the maximum stack height. Overfilling the tray may cause a paper jam.

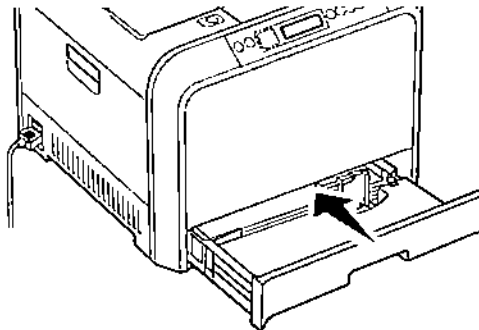


- 6** Squeeze the paper guide, as shown and slide it to the stack of paper until it lightly touches the side of the stack. Do not press the guide too tightly against the edge of the paper as it may cause the paper to bend.



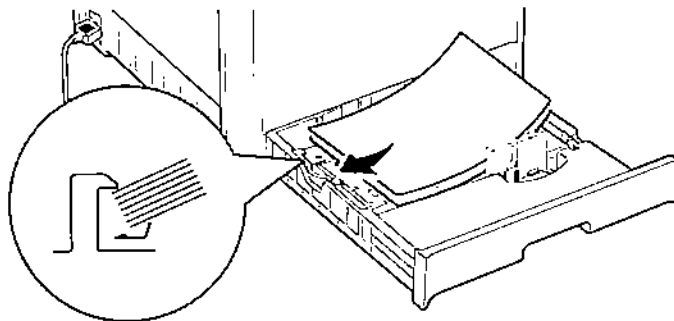
NOTE: If you want to change the size of the paper in the tray, refer to page 3.7.

- 7** Slide the tray back into the printer.

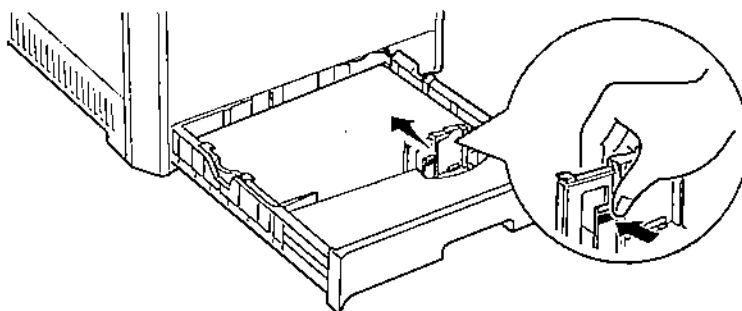


- 8** When you print a document, select the paper type, size, and source in your software application. For details, see page 4.7.

- 2** Load paper with the **print side facing up**. For more information see steps 4 and 5 on page 3.5~3.6.



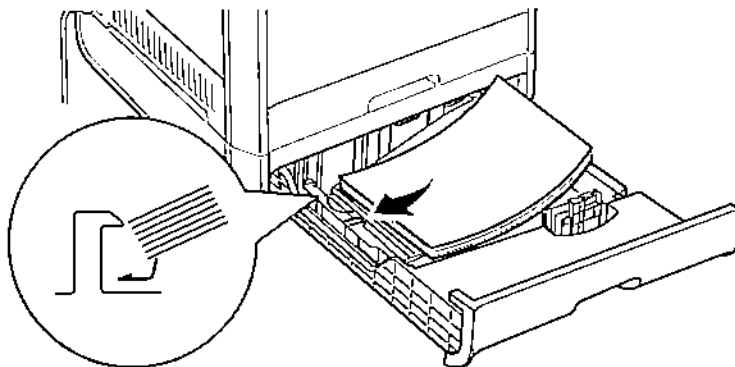
- 3** Squeeze the paper guide, as shown and slide it to the stack of paper until it lightly touches the side of the stack. Do not push the guide too tightly against the edge of the paper as it may cause the paper to bend.



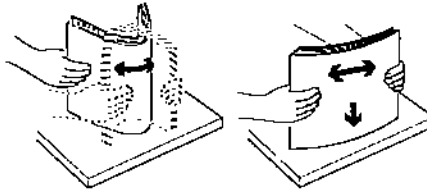
Using the Optional Tray 2

The optional tray, Tray 2, can hold a maximum of 500 sheets of plain paper.

To load paper in Tray 2, follow the instructions for loading paper on page 3.4.

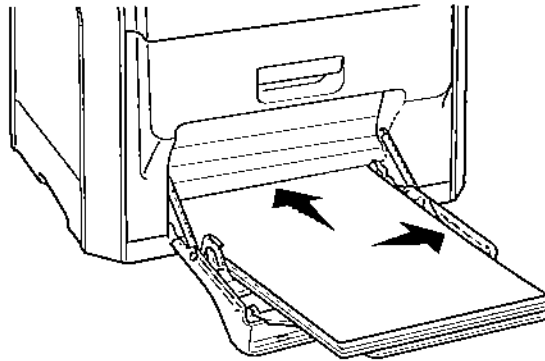


- 2** If you are using paper, flex or fan the edge of the paper stack to separate the pages before loading.

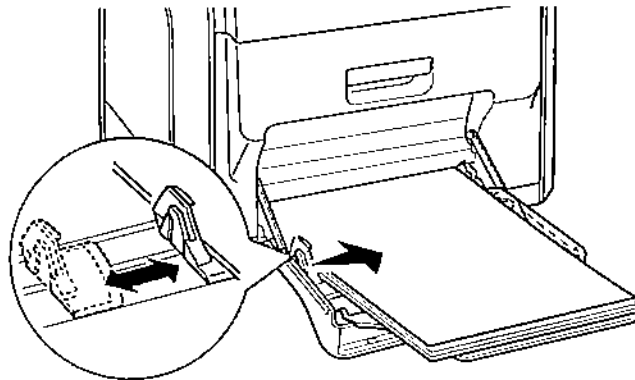


For transparencies, hold them by the edges and avoid touching the print side. Oils from your fingers can cause print quality problems.

- 3** Load the print material **with the print side facing down** and against the right edge of the tray.



- 4** Squeeze the paper width guide and slide it to the right to touch lightly against the edge of the material without causing it to bend.

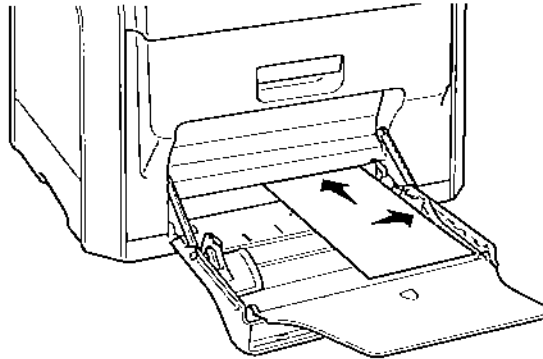


Using the Manual Feed

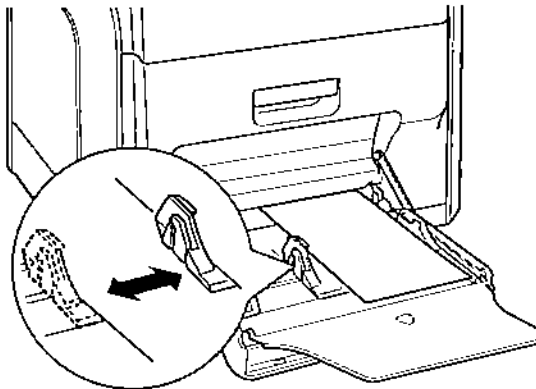
If you select **Manual** in the **Source** option when changing print settings, you can manually load a sheet of print material in the Multi-purpose Tray. Manually loading paper can be helpful when you want to check the print quality after each page is printed.

This loading procedure is almost the same as the procedure for loading in the Multi-purpose Tray, except you load paper sheet-by-sheet in the tray, send print data to print the first page, and press the **On Line/Continue** button (⏮) on the control panel to print each following page.

- 1 Load a sheet of print material **with the print side down** and against the right edge of the Multi-purpose Tray.



- 2 Squeeze the paper width guide and slide it to the right to touch lightly against the edge of the paper without causing it to bend.



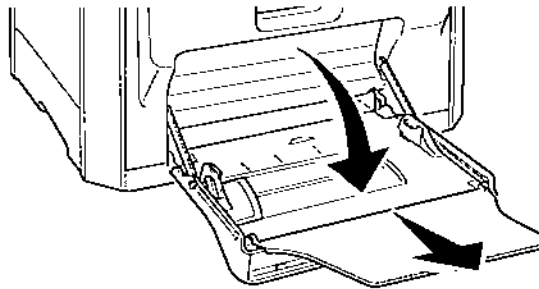
Printing on Special Print Materials

Printing on Envelopes

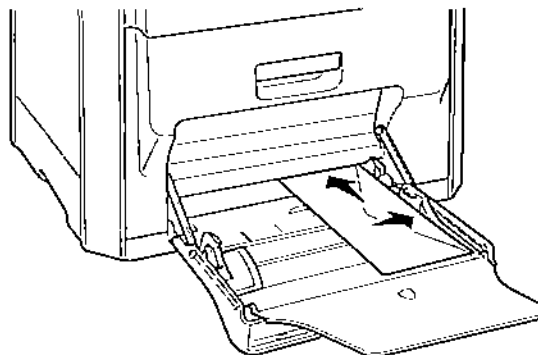
- Load envelopes into the Multi-purpose Tray only.
- Only use envelopes recommended for laser printers. Before loading envelopes in the Multi-purpose Tray, make sure that they are undamaged and are not stuck together.
- Do not feed stamped envelopes.
- Never use envelopes with clasps, snaps, windows, coated linings, or self-stick adhesives.

To print on envelopes:

- 1** Open the Multi-purpose Tray and unfold the paper support.



- 2** Flex or fan the edge of the envelope stack to separate them before loading.
- 3** Load the envelopes into the Multi-purpose Tray **with the flap side up**. The end of the envelope with the stamp area enters the printer first.

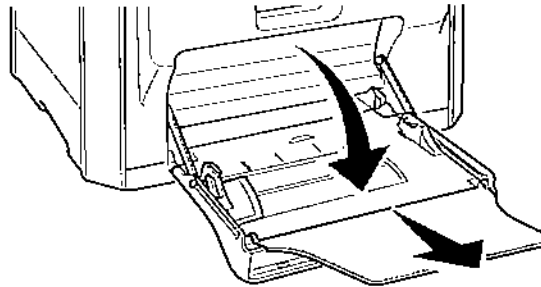


Printing on Labels

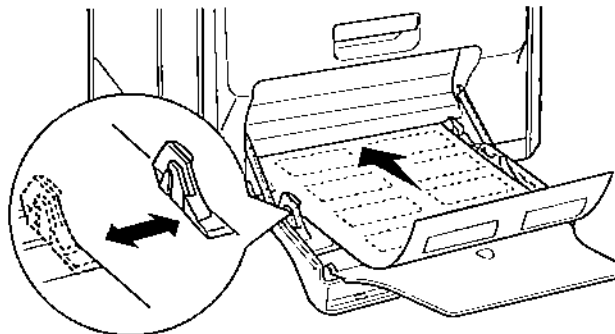
- Only use labels recommended for laser printers.
- Verify that the labels' adhesive material can tolerate a fusing temperature of 180°C (356°F) for 0.1 seconds.
- Make sure that there is no exposed adhesive material between the labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to printer components.
- Never print on the same sheet of labels more than once, or print on a partial sheet of labels.
- Do not use labels that are separating from the backing sheet or are wrinkled or damaged in any way.
- To prevent labels from sticking together, do not let the printed label sheets stack up as they are printed out.

To print on labels:

- 1 Open the Multi-purpose Tray and unfold the paper support.

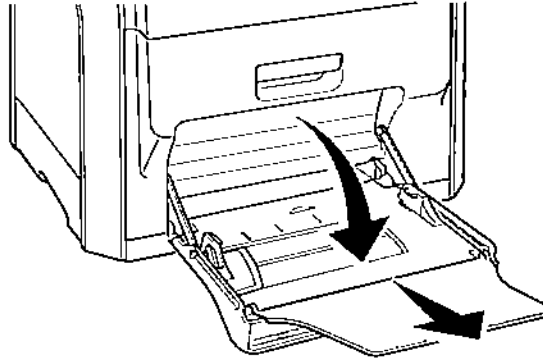


- 2 Load labels in the Multi-purpose Tray only, **with the print side down** and the top, short edge in first. Adjust the guide to fit the width of the labels.

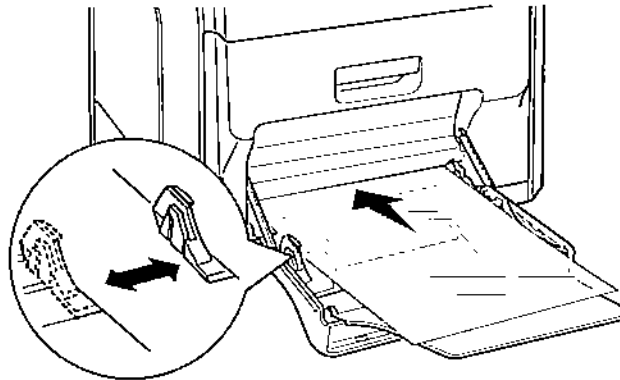


To print on transparencies:

- 1 Open the Multi-purpose Tray and unfold the paper support.



- 2 Load transparencies into the Multi-purpose Tray only. They must be loaded **with the print side downwards** and the **top with the white leading edge entering the printer first**. Adjust the guide to fit the width of the transparencies.

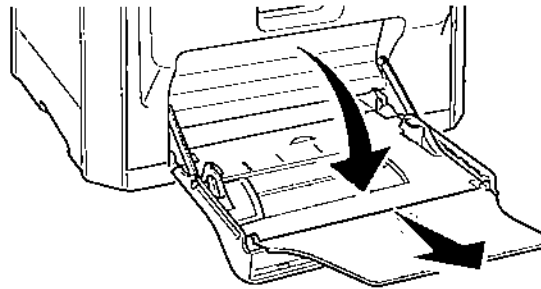


Printing on Preprinted Paper

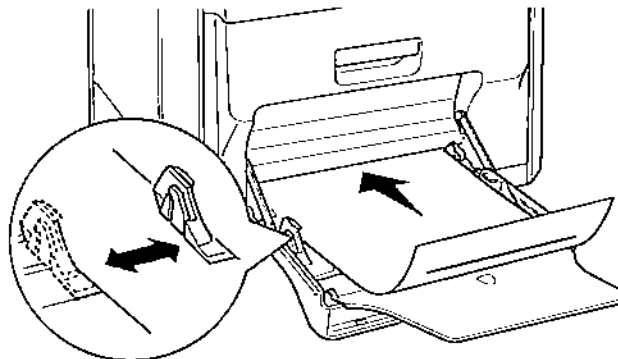
- Preprinted paper is paper that has some type of printing on it before it is sent through the printer (paper that has a preprinted logo at the top of the page, for example).
- Letterhead must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature of 180°C (356°F) for 0.1 seconds.
- Ink on letterhead must be non-flammable and should not adversely affect printer rollers.
- Forms and letterhead should be sealed in moisture-proof wrapping to prevent changes during storage.
- Before you load preprinted paper, such as forms and letterhead, verify that the ink on the paper is dry. During the fusing process, wet ink can come off of preprinted paper, reducing the print quality.

To print on preprinted paper:

- 1 Open the Multi-purpose Tray and unfold the paper support.

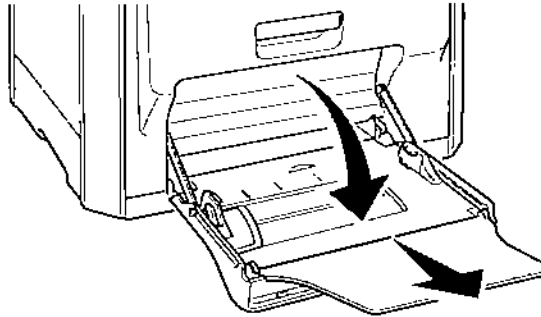


- 2 Load letterhead in the Multi-purpose Tray only, **with the print side down and the top and short edge first.** Adjust the guide to fit the width of the paper stack.

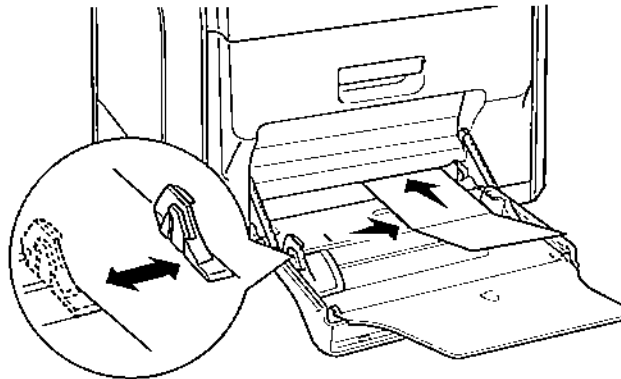


To print on card stock:

- 1 Open the Multi-purpose Tray and unfold the paper support.



- 2 Load print material in the Multi-purpose Tray only, **with the print side down and the short edge first**. Slide the guide until it lightly touches the stack without causing it to bend.



MEMO



3.24 USING PRINT MATERIALS

Printer Driver Features

Your printer drivers will support the following standard features:

- Paper source selection
- Paper size, orientation, and media type
- number of copies

The table below lists a general overview of features supported by your printer drivers.

Feature	Printer driver			CUPS
	Win9x/Me	Win2000/ 2003/XP	NT4.0	Mac
Color mode	Y	Y	Y	Y
Print quality option	Y	Y	Y	Y
Poster printing	Y	Y	Y	N
Double-sided printing	Y	Y	Y	Y
Booklet printing	Y	Y	Y	N
Multiple pages per sheet (N-up)	Y	Y	Y	Y
Fit to page printing	Y	Y	Y	N
Scale printing	Y	Y	Y	Y
Different source for first page	Y	Y	Y	Y
Watermark	Y	Y	Y	N
Overlay	Y	Y	Y	N
TrueType fonts option	Y	Y	Y	N

Canceling a Print Job

A print job can be stopped from a program, from a print queue, or by pressing the **Cancel** button (⊗) on the printer.

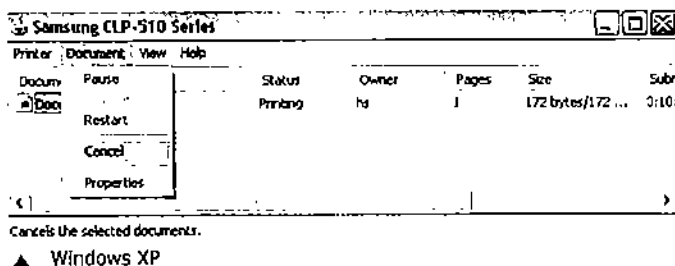
To stop a print job from the control panel:

- If the print job is already printing, press the **Cancel** button (⊗). The printer finishes printing the pages that are already moving through the printer and deletes the remainder of the print job.
- Pressing the **Cancel** button (⊗) cancels only the current job in the printer. If more than one print job is in the printer's memory, you must press the **Cancel** button once for each job, after the job starts printing.

To stop a print job from the Printers folder:

If the print job is waiting in a print queue or print spooler, such as the Printer group in Windows, delete the job as follows:

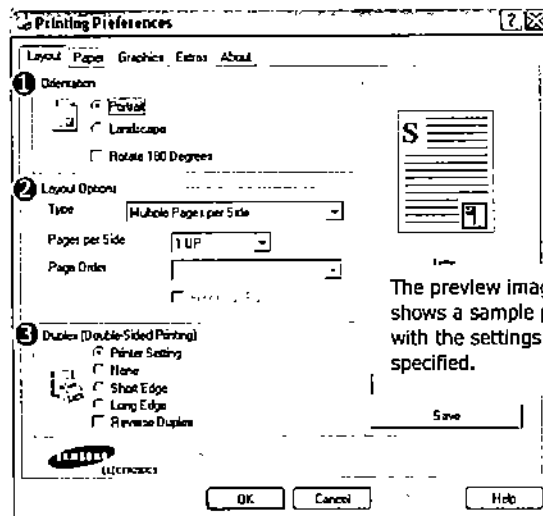
- 1 Click the Windows **Start** menu.
- 2 For Windows 9x/NT4.0/2000/Me, select **Settings** and then **Printers**.
For Windows XP/2003, select **Printers and Faxes**.
- 3 Double-click the **Samsung CLP-510 Series** icon.
- 4 From the **Document** menu, select **Cancel Printing** (Windows 9x/Me) or **Cancel** (Windows NT 4.0/2000/2003/XP).





NOTE: You can access this window simply by double-clicking the printer icon at the bottom right corner of the Windows desktop.

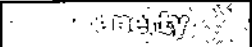

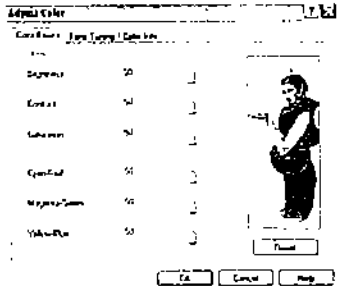
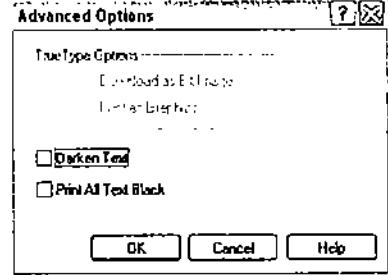
Layout tab

The **Layout** tab provides options for you to adjust how the document appears on the printed page. The **Layout Options** includes **Multiple Pages per Side**, **Booklet Printing**, and **Poster**. You can also use **Duplex[Double-Sided Printing]** in this tab. See page 4.3 for more information on accessing printer properties. Click the **Layout** tab to display the layout properties shown below.



Preview	DESCRIPTION
① Orientation	<p>Orientation allows you to select the direction in which information is printed on a page.</p> <ul style="list-style-type: none"> • Portrait prints across the width of the page, letter style. • Landscape prints across the length of the page, spreadsheet style. <p>If you want to turn the page upside down, select Rotate 180 Degrees.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>portrait</p> </div> <div style="text-align: center;">  <p>Landscape</p> </div> </div>
② Layout Options	<p>Layout Options allows you to select advanced printing options. For details, see Chapter 5, "Advanced Printing."</p>
③ Duplex [Double-Sided Printing]	<p>Duplex[Double-Sided Printing] allows you to automatically print two-sided documents. If you want to use the printer driver's default setting, select Printer Setting. When you select the Reverse Duplex option, your printer reverses the order of the printed pages. For details, see page 5.3.</p>

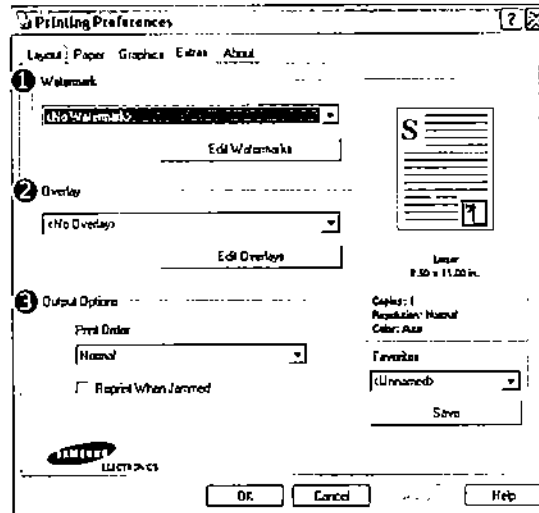
③ Source	<p>Make sure that Source is set to the corresponding paper tray.</p> <p>Use the Manual source when printing to special material. You have to load one sheet at a time into the Multi-purpose Tray. See page 3.9.</p> <p>If the paper source is set to Auto Select, the printer automatically picks up print material in the following order: Multi-purpose Tray, Tray1, Optional Tray2.</p>
④ Type	<p>Make sure that Type is set to Plain Paper. If you load a different type of print material, select the corresponding paper type. For more information on print material, refer to Chapter 3, "Using Print Materials."</p> <p>If you use 16lb to 24lb (60~90g/m²) cotton paper, such as Gilbert 25% and Gilbert 100%, set the paper type to Cotton for best printing.</p> <p>To use recycled paper, select Recycled Paper.</p>
⑤ Different Source for First Page	<p>This property allows you to print the first page using a different paper type from the rest of the document. You can select the paper source for the first page.</p> <p>For example, load thick stock for the first page into the Multi-purpose Tray, and plain paper into Tray1. Then, select Tray1 in the Source option and MP Tray in the Different Source for First Page option.</p>
⑥ Scaling	<p>Scaling allows you to automatically or manually scale your printer job on a page.</p> <p>You can choose from None, Scale Printing, and Fit to Page. For details, see page 5.4 and page 5.5.</p>

	
<p>2 Color Mode (Continued)</p>	<p>If you click Adjust Color, you can change the appearance of the document's images.</p>  <p>The preview image shows a sample page with the settings you specified.</p> <ul style="list-style-type: none"> • Color Basics: You can adjust the appearance of the images by changing the settings in the Levels option. • Tone Tuning: You can adjust the tonal range of images by changing the Tone Curve option. • Color Info: This tab contains information about the driver's color conversion system.
<p>3 Advanced Options</p>	<p>You can adjust advanced settings by clicking the Advanced Options button.</p>  <p>TrueType Options</p> <p>This option is only available when you use Windows 9x. This option determines what the driver tells the printer about how to image the text in your document. Select the appropriate setting according to the status of your document.</p> <ul style="list-style-type: none"> • Download as Bit Image: When this option is selected, the driver will download the font data as bitmap images. Documents with complicated fonts, such as Korean or Chinese, or certain other types of fonts, will print faster in this setting.

Extras tab

See page 4.3 for more information about accessing printer properties.

Click the **Extras** tab to access the following features:



Option	Description
① Watermark	You can create a background image of text to print on each page of your document. See "Using Watermarks" on page 5.10.
② Overlay	Overlays are often used to take the place of preprinted forms and letterhead paper. See "Using Overlays" on page 5.13.
③ Output Options	<p>Print Order: You can set the sequence for the pages to print. Select the print order from the drop-down list.</p> <ul style="list-style-type: none"> • Normal: Your printer prints all pages from the first page to the last page. • Reverse All Pages: Your printer prints all pages from the last page to the first page. • Print Odd Pages: Your printer prints only the odd pages of the document. • Print Even Pages: Your printer prints only the even pages of the document. <p>Reprint When Jammed: When this option is checked, the printer keeps the image for a printed page until the printer signals that the page has successfully exited the printer. When a paper jam occurs, the printer will reprint the last page sent from the computer after you clear the jam.</p>

To use a saved setting, select the item from the **Favorites** drop down list.

The printer is now set to print according to the Favorites setting you selected.

To delete a Favorites item, select it from the list and click **Delete**.

You can also restore the printer driver's default settings by selecting **<Printer Default>** from the list.

Using Help

Your printer has a help screen that can be activated using the **Help** button in the printer properties window. The help screen gives you detailed information about the printer features provided by the printer driver.

You can also click **?** in the upper right hand corner of the window, and then click on any setting.



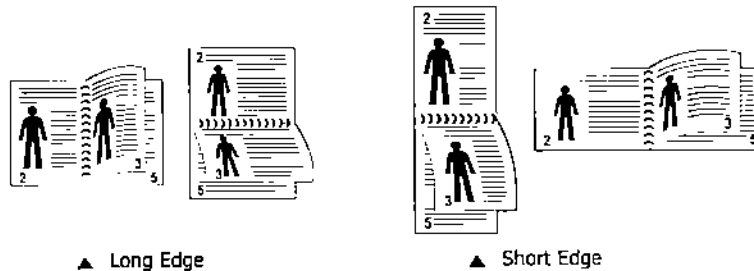
Printing on Both Sides of Paper



You can print on both sides of paper automatically. Before printing, decide how you want your document oriented.

The options are:

- **Long Edge**, which is the conventional layout used in book binding.
- **Short Edge**, which is the type often used with calendars.



NOTES:

- Do not print on both sides of labels, transparencies, envelopes, or thick paper. Paper jamming and damage to the printer may result.
 - To use double-sided printing, you can use only the following paper sizes: A4, Letter, Legal, and Folio, with a weight of 20~24lbs (75~90g/m²).
-

There are two ways to enable or disable double-sided printing:

Using the Control Panel Menu

Select **Duplex** in the **Layout** menu. Set the **Duplex Margin** item in the same menu, if necessary. See page 2.7 for more details.

For further details about using the control panel menu, see page 2.5.

Scaling Your Document

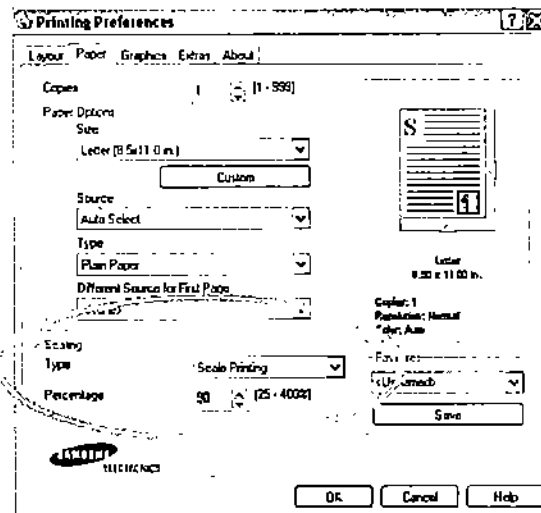


You can change the size of a page's content to appear larger or smaller on the printed page.



- 1 To change the print settings from your software application, access the printer properties. See page 4.3.
- 2 From the **Paper** tab, select **Scale Printing** from the **Type** drop-down list.
- 3 Enter the scaling rate in the **Percentage** input box.

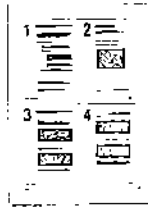
You can also click the ▲ or ▼ button.



NOTE: This feature is not available when you select **Poster** or **Booklet Printing** from the **Layout** tab.

- 4 Select the paper source, size, and type in **Paper Options**.
- 5 Click **OK** and print the document.

Printing Multiple Pages on One Sheet of Paper



You can select the number of pages to be printed on a single sheet of paper. To print more than one page per sheet, the pages will be smaller and arranged in the order you specify. You can print up to 16 pages on one sheet.

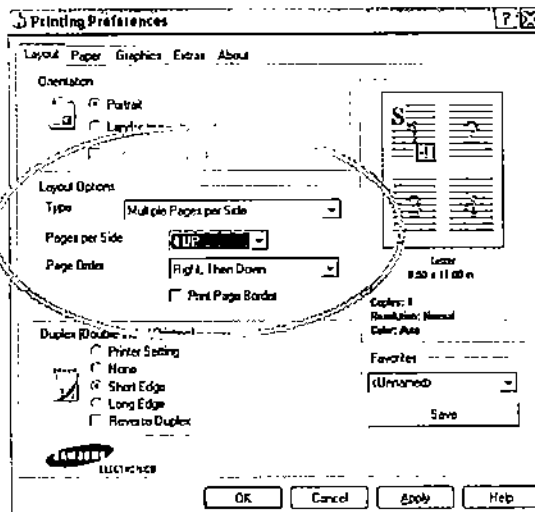
1 To change the print settings from your software application, access the printer properties. See page 4.3.

2 From the **Layout** tab, choose **Multiple Pages per Side** from the **Type** drop-down list.



NOTE: This feature is not available when you select **Scale Printing** or **Fit to Page** from the **Paper** tab.

3 Select the number of pages you want to print per sheet (1, 2, 4, 9, or 16) from the **Pages per Side** drop-down list.



4 Select the page order from the **Page Order** drop-down list, if necessary.

Right, Then
Down

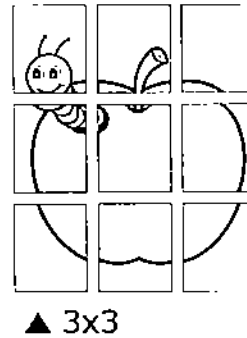
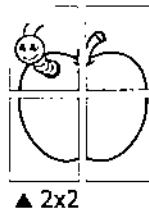
Down, Then
Right

Left, Then
Down

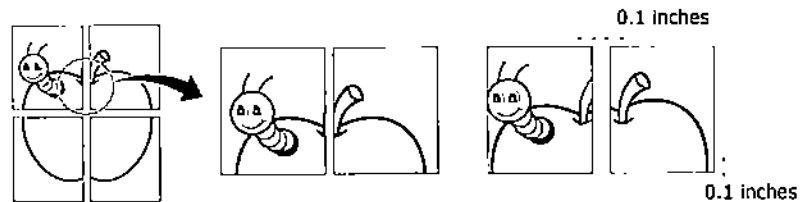
Down, Then
Left

3 Configure the poster option:

You can select the page layout from 2x2, 3x3, or 4x4. If you select 2x2, the image is automatically stretched to cover 4 physical pages.



Specify an overlap in millimeters or inches to make it easier to pasting the sheets together.



- 4** Click the **Paper** tab and select the paper source, size, and type.
- 5** Click **OK** and print the document. You can complete the poster by pasting the sheets together.

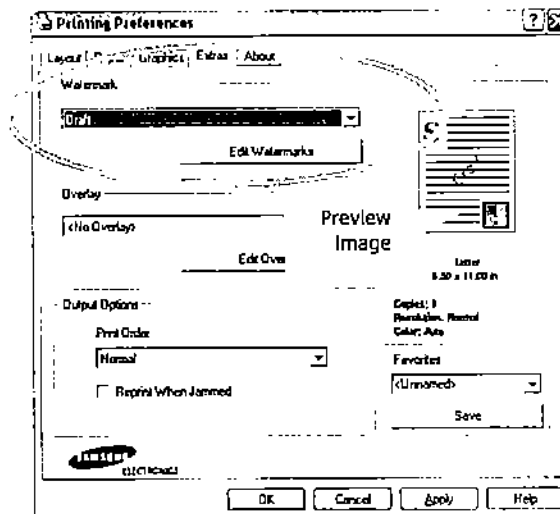
Using Watermarks

The Watermark option allows you to print text over an existing document. For example, you may want to have large gray letters reading “DRAFT” or “CONFIDENTIAL” printed diagonally across the first page or all of the pages of a document.

There are several predefined watermarks that come with your printer, and they can be modified or you can add new ones to the list.

Using an Existing Watermark

- 1 To change the print settings from your software application, access the printer properties. See page 4.3.
- 2 Click the **Extras** tab, and select a watermark from the **Watermark** drop-down list. You will see the selected watermark in the preview image.



- 3 Click **OK** and start printing.



NOTE: The preview image shows how the page will look when it is printed.

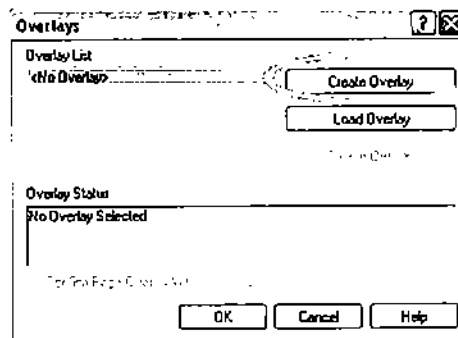
Editing a Watermark

- 1** To change the print settings from your software application, access the printer properties. See page 4.3.
- 2** Click the **Extras** tab and click the **Edit Watermarks** button in the **Watermark** section. The Watermarks window appears.
- 3** Select the watermark you want to edit from the **Current Watermarks** list to change the watermark message and the options. Refer to page 5.11.
- 4** Click **Update** to save the changes.
- 5** Click **OK** until you exit the Print window.

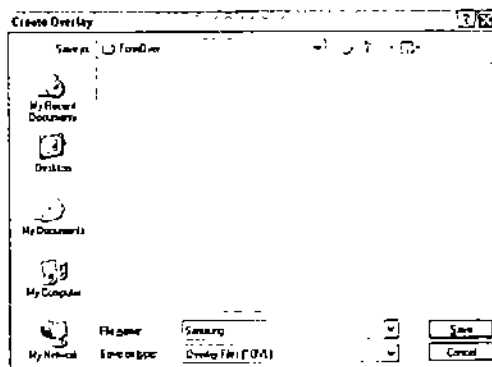
Deleting a Watermark

- 1** To change the print settings from your software application, access the printer properties. See page 4.3.
- 2** From the **Extras** tab, click the **Edit Watermarks** button in the **Watermark** section. The Watermarks window appears.
- 3** Select the watermark you want to delete from the **Current Watermarks** list and click **Delete**.
- 4** When a confirmation message window appears, click **Yes**.
- 5** Click **OK** until you exit the Print window.

- 4 In the Overlays window, click **Create Overlay**.



- 5 In the Create Overlay window, type a name of up to eight characters in the **File name** box. Select the destination path, if necessary. (The default is C:\Formover).



- 6 Click **Save**. The name appears on the **Overlay List** box.
- 7 Click **OK** or **Yes** to finish creating.

The file is not printed out. Instead it is stored on your computer hard disk drive.



NOTE: The overlay document size must be the same as the documents you print with the overlay. Do not create an overlay with a watermark.

- 6 If necessary, click **Confirm Page Overlay When Printing**. If this box is checked, a message window appears each time you submit a document for printing, asking you to confirm your wish to print an overlay on your document.

If this box is empty and an overlay has been selected, the overlay automatically prints with your document.

- 7 Click **OK** or **Yes** until the printing starts.

The selected overlay downloads with your print job and prints on your document.



NOTE: The resolution of the overlay document must be the same as that of the document you are printing with the overlay.

Deleting a Page Overlay

You can delete page overlays that you no longer use.

- 1 In the printer properties window, click the **Extras** tab.
- 2 Click the **Edit Overlays** button in the **Overlay** section.
- 3 Select the overlay you want to delete from the **Overlay List** box.
- 4 Click **Delete Overlay**.
- 5 When a confirmation message window appears, click **Yes**.
- 6 Click **OK** until you exit the Print window.

4 Select **Status Monitor** and then click **Next**.

5 When the installation is completed, click **Finish**.

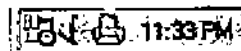


NOTE: If you want to remove the Status Monitor, refer to the Setup Guide supplied with your printer.

Opening the Troubleshooting Guide

Double click the Status Monitor icon on the Windows task bar.

Double click this icon.

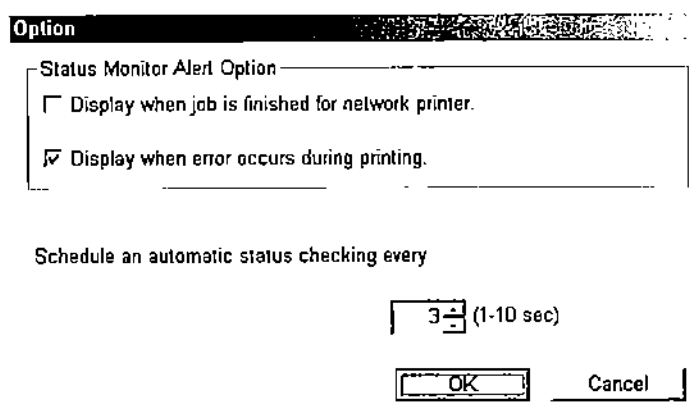


Or, from the **Start** menu, select **Programs** → **Samsung CLP-510 Series** → **Troubleshooting guide**.

Changing the Status Monitor Program Setting

Select the Status Monitor icon on the Windows task bar and right-click on the Status Monitor icon. Select **Option**.

The following window opens:



- **Display when job is finished for network printer** shows the Status Monitor balloon when your job is complete.

MEMO



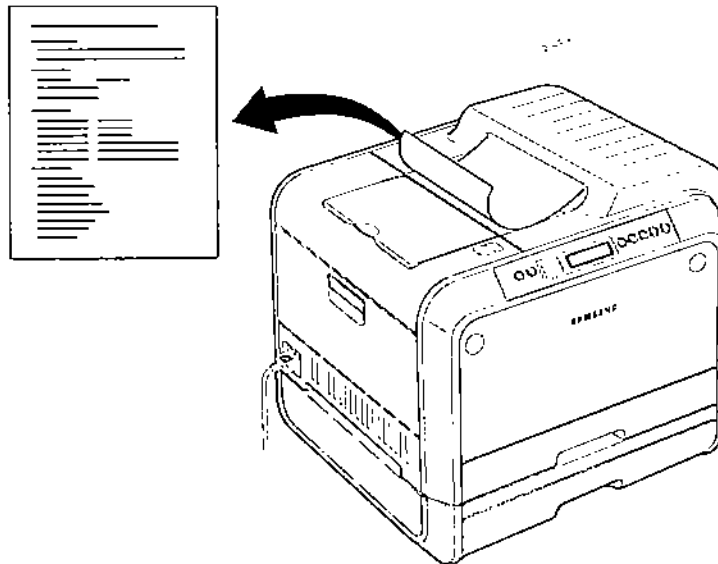
Printing a Configuration Page

You can print a configuration page from the printer's control panel. Use the configuration page to view the current settings, to help troubleshoot problems, or to verify the installation of optional accessories, such as memory or an optional tray.

To print a configuration page:

- 1 In ready mode, press the **Menu** button (Ⓜ) on the control panel until you see "Information" on the bottom line of the display.
- 2 Press the **Enter** button (Ⓜ) to access the menu.
- 3 Press the **Enter** button (Ⓜ) when "Configuration" displays on the bottom line.

A configuration page prints out.



Managing Toner Cartridges

Toner Cartridge Storage

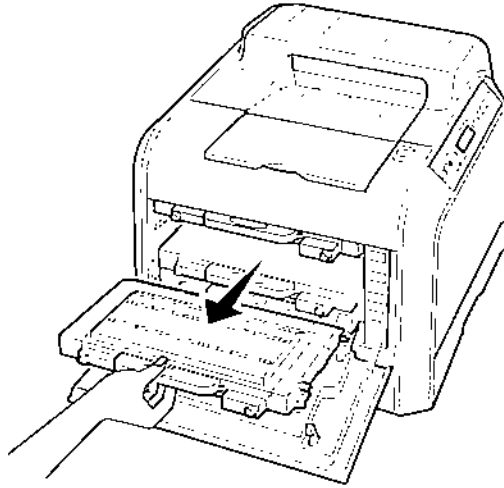
To get the maximum results from a toner cartridge, keep the following guidelines in mind:

- Do not remove toner cartridges from their packages until you are ready to use them.
- Do not refill toner cartridges. **The printer warranty does not cover damage caused by using a refilled cartridge.**
- Store toner cartridges in the same environment as the printer.
- To prevent damage to toner cartridges, do not expose them to light for more than a few minutes.

Toner Cartridge Life Expectancy

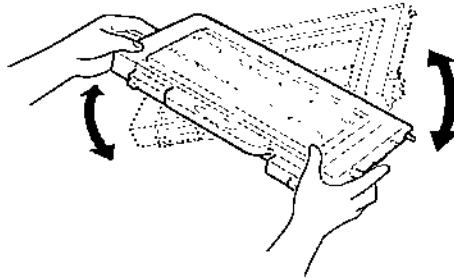
The life of a toner cartridge depends on the amount of toner that your print jobs require. When printing text at 5% coverage, a new toner cartridge lasts an average of 3,000 or 7,000 pages for black and 2,000 or 5,000 pages for each color. The starter toner cartridge supplied with the printer lasts an average of 3,000 pages for black and 2,000 pages for each color.

- 2 First, gently pull the cartridge by its handle to erase it out of its slot, but when you are ready to lift it out of the printer, transfer your grip to the body of the cartridge, and lift it out with both hands.



CAUTION: If you leave the left cover open for more than a few minutes, the imaging unit can be exposed to light. This will cause damage to the imaging unit. Close the left cover should the installation needs to be halted for any reason.

- 3 Holding both sides of each of the toner cartridge, gently roll it from side to side to redistribute the toner.



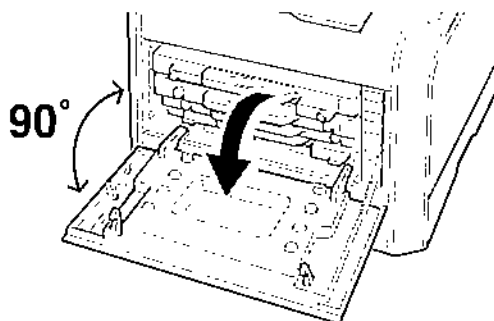
NOTE: If toner gets on your clothing, wipe it off with a dry cloth and wash it in cold water. Hot water sets toner into fabric.

Replacing Toner Cartridges

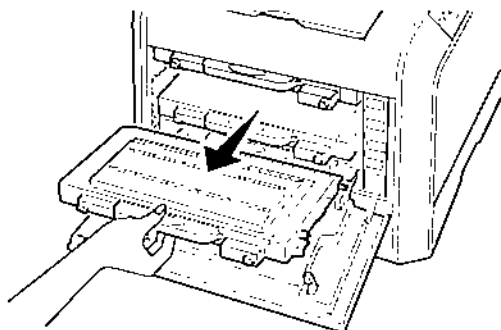
The printer uses four colors and has a different toner cartridge for each one: cyan (C), magenta (M), yellow (Y), and black (K).

When the display on the control panel shows the error message, "[Color] Toner Empty," the printer stops printing. At this stage, replace a toner cartridge. The control panel display tells you which color needs to be replaced.

- 1 Turn the printer off, then wait a few minutes for the printer to cool.
- 2 Using the handle, completely open the left cover until it is at right angles to the main frame. The toner cartridges will disengage automatically.

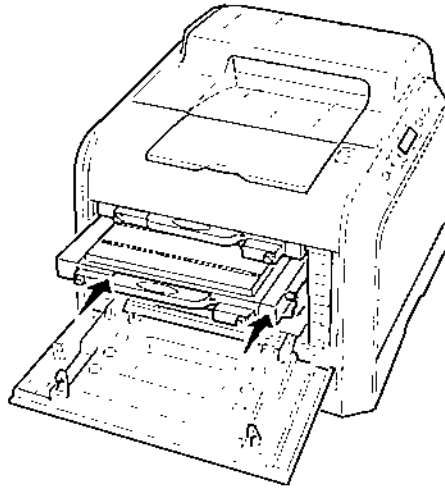


- 3 First, gently pull the cartridge by its handle to erase it out of its slot, but when you are ready to lift it out of the printer, transfer your grip to the body of the cartridge, and lift it out with both hands.



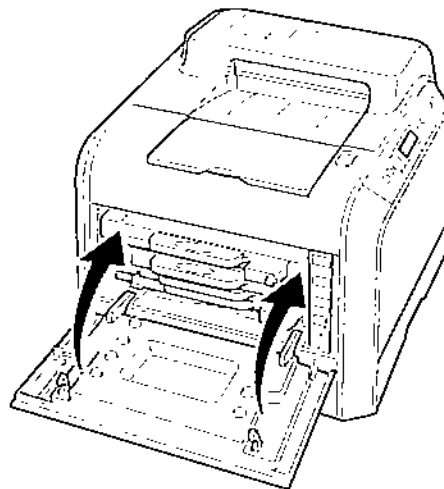
CAUTION: If you leave the left cover open for more than a few minutes, the imaging unit can be exposed to light. This will cause damage to the imaging unit. Close the left cover should the installation needs to be halted for any reason.

- 7** Make sure that the color of the toner cartridge matches the color slot and then slide the new toner cartridge into the printer. Using both hands, insert the cartridge into the slot. Then use the handle to slide the cartridge in.



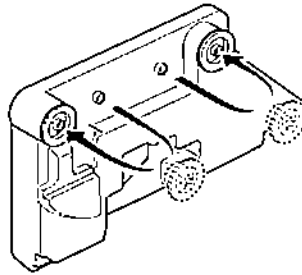
When the toner cartridges are correctly installed, the yellow and black cartridges will not fully be inserted. These will automatically move into place when you close the left cover.

- 8** Close the left cover. Make sure that the cover is securely latched, and then turn the printer on.

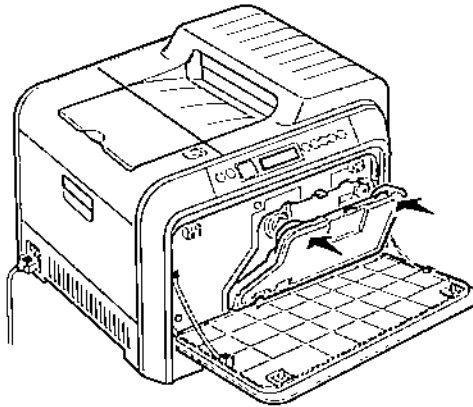


If you have installed the toner cartridges incorrectly, the left cover will not close properly. Check again to make sure the cartridge colors correspond to those marked on the right hand side. Never force the cover closed.

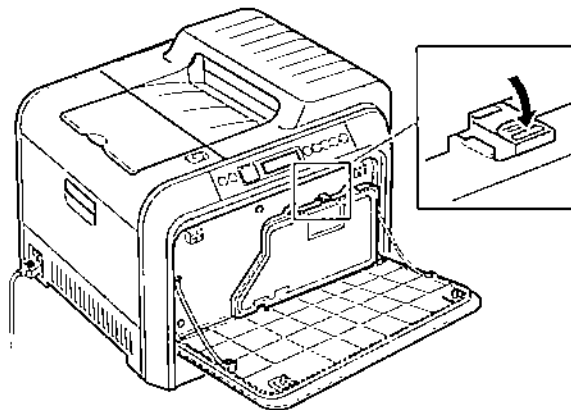
- 3** Remove the container's attached caps, as shown below, and use them to close the waste toner container.



- 4** Take a new waste toner container out of its package.
- 5** Insert the lower end of the new container into place and then push the upper end. Make sure that it is seated in place.



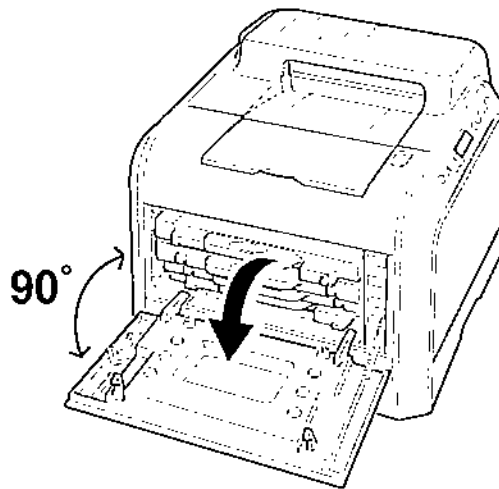
- 6** Make sure that the lock lever is holding the container securely.



Replacing the Imaging Unit

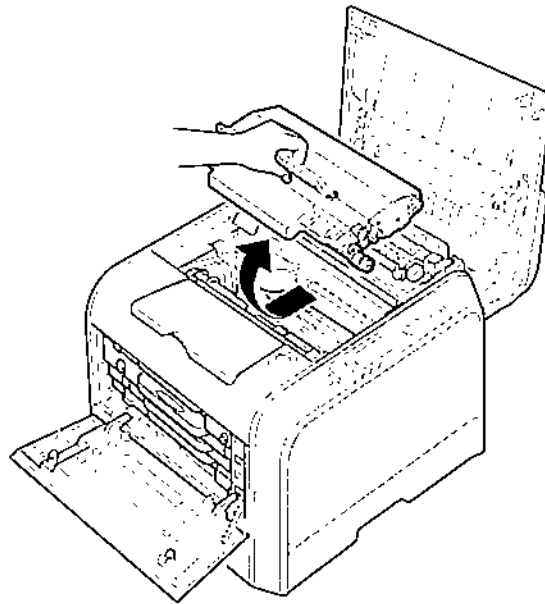
The life of the imaging unit is approximately 50,000 pages for black and 12,500 pages for color. Replace the imaging unit when the printer control panel displays "Replace Imaging Unit".

- 1 Turn the printer off, then wait a few minutes for the printer to cool.
- 2 Using the handle, completely open the left cover until it is at right angles to the main frame. The toner cartridges will disengage automatically.

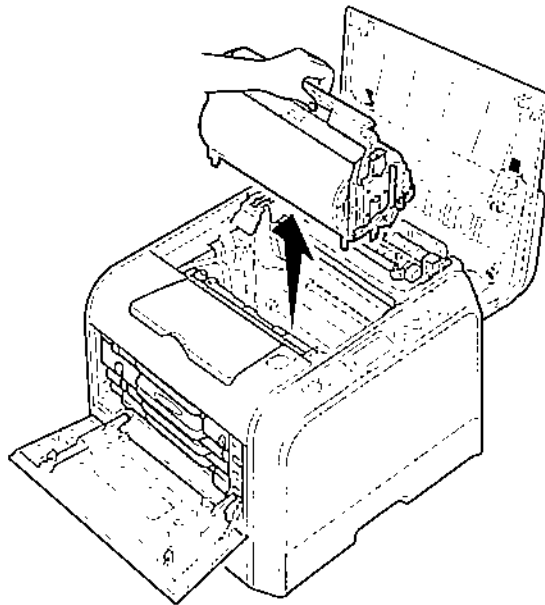


CAUTION: If the left cover is not completely open, the top cover release button will remain locked.

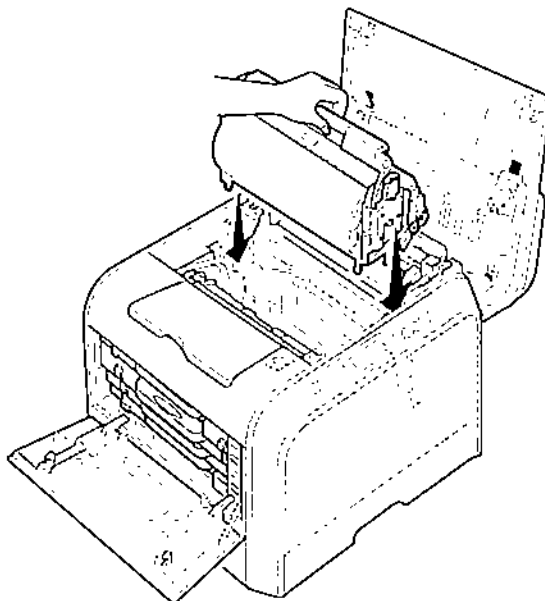
- 5** Using the handle, lift the transfer belt out of the printer by lightly pulling it toward the left of the printer. Set it on a clean flat surface.



- 6** Lift the handle of the used imaging unit and use it to lift the imaging unit out of the printer.

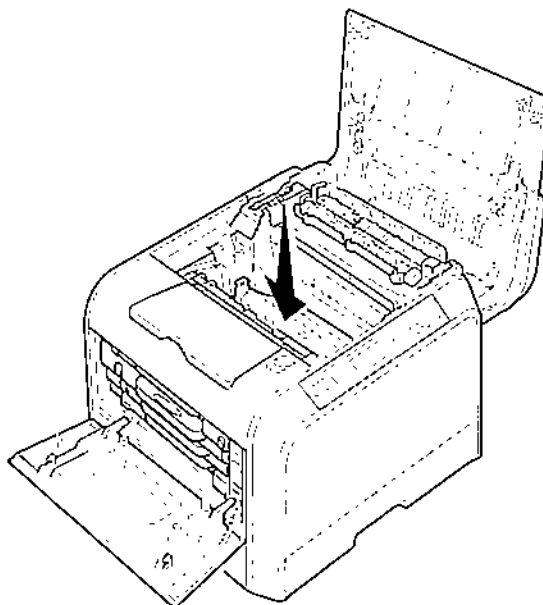


- 10** Hold the handle of the new imaging unit with the green roller facing you. Align the imaging unit with the slots in your printer so that the colors on both sides of the imaging unit slide into the corresponding colors of the slots.

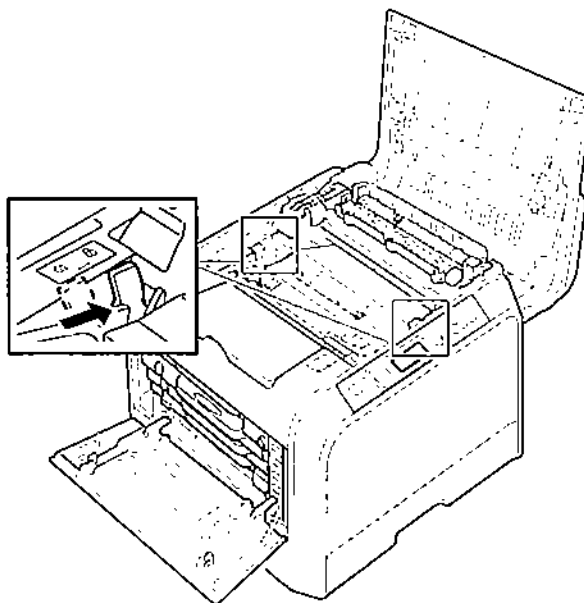


CAUTION: Insert the imaging unit carefully so as not to scratch or damage the surface of the green roller.

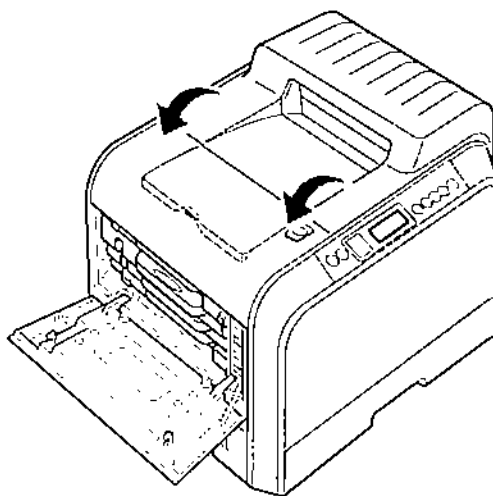
- 11** Slide the imaging unit down into the printer until it cannot be pushed in any further. Fold the handle down.



- 14** Firmly push the lock levers on each side toward the top cover, as shown below, to lock the transfer belt into place.



- 15** After making sure that the left cover is open, close the top cover. Make sure that it is securely latched.



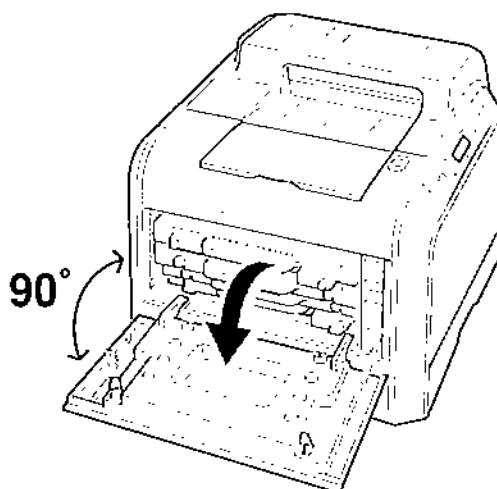
CAUTION: Do not try to close the left cover with the top cover open. This may cause damage to the printer.

Replacing the Transfer Belt

The life of the transfer belt is approximately 50,000 black pages and 12,500 color pages. Replace the transfer belt when the control panel displays "Replace Transfer Belt".

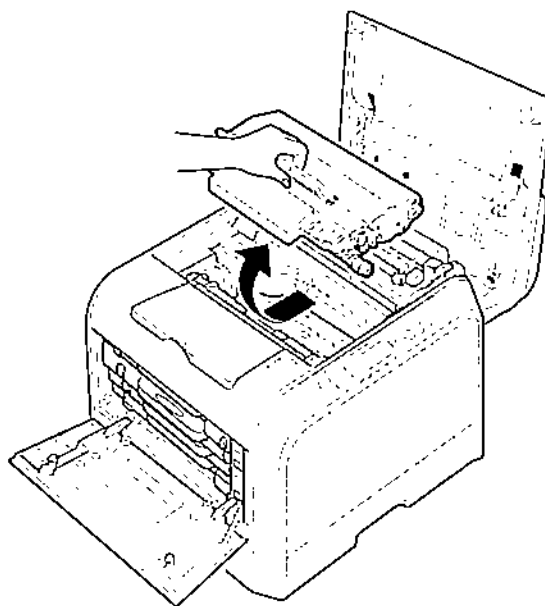
To replace the transfer belt:

- 1 Turn the printer off, then wait a few minutes for the printer to cool.
- 2 Using the handle, completely open the left cover until it is at right angles to the main frame. The toner cartridges will disengage automatically.



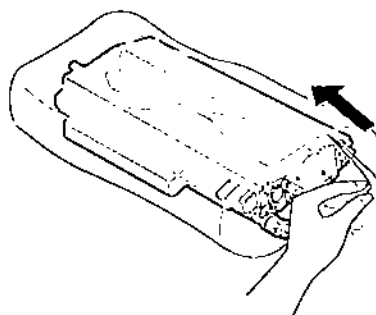
CAUTION: If the left cover is not completely open, the top cover release button will remain locked.

- 5 Using the handle, lift the used transfer belt out of the printer by lightly pulling it toward the left of the printer.



NOTE: Keep the transfer belt level. Do not turn the transfer belt over, or loose toner may be spilled.

- 6 Take a new transfer belt out of the package.

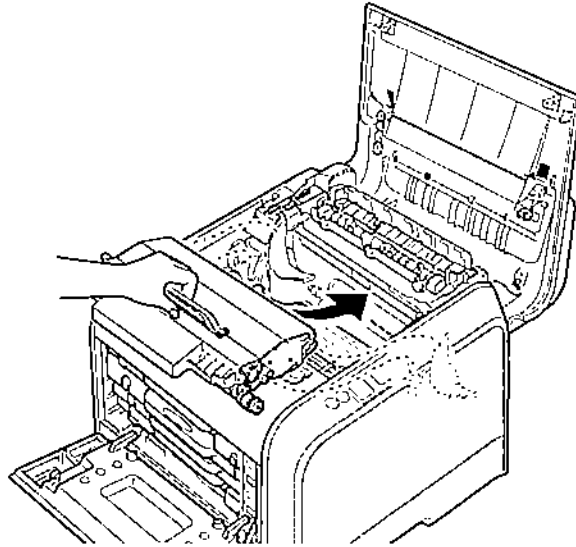


- 7 Remove the paper covering the transfer belt by removing the tape.



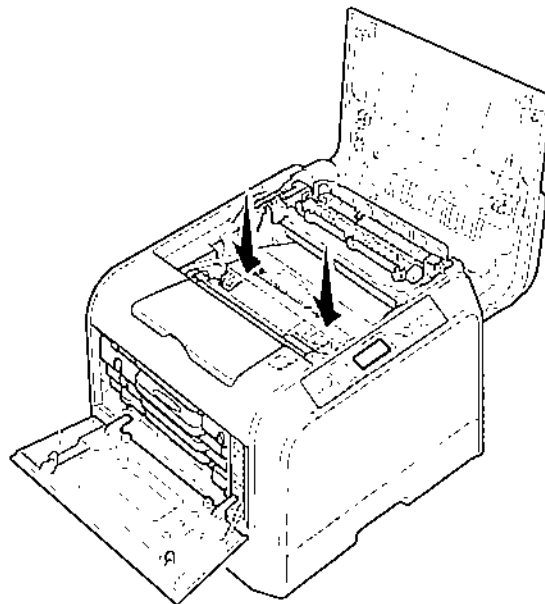
CAUTION: Don't use sharp objects, such as a knife or scissors, to open the transfer belt package. You could damage the surface of the transfer belt.

- 10** Hold the handle on the new transfer belt and then align it with the slots on either side of the inside of your printer.

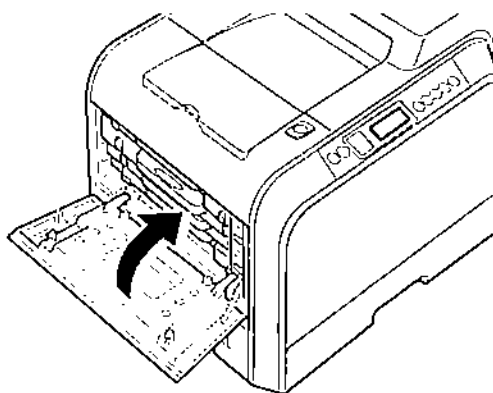


NOTE: Keep the transfer belt level. Do not turn the transfer belt over, or loose toner may be spilled.

- 11** Slide the new transfer belt down into the printer and press it firmly into place.



14 Close the left cover firmly.

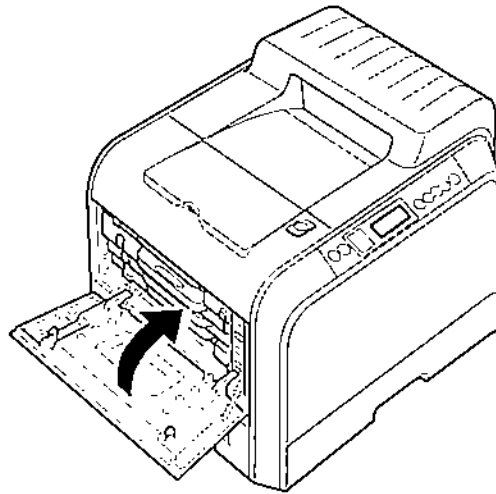


15 Turn the printer on.



NOTE: After replacing the transfer belt, your printer will automatically reset the image counter for the transfer belt.

- 2 Close the left cover firmly.

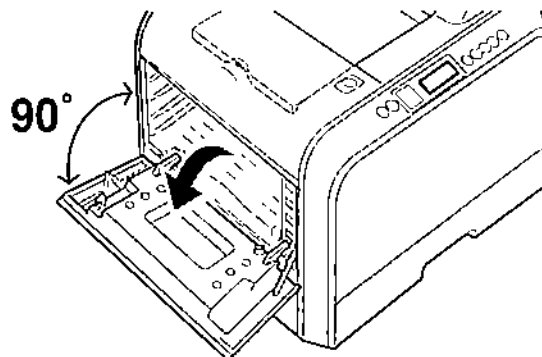


Cleaning the Inside of the Printer



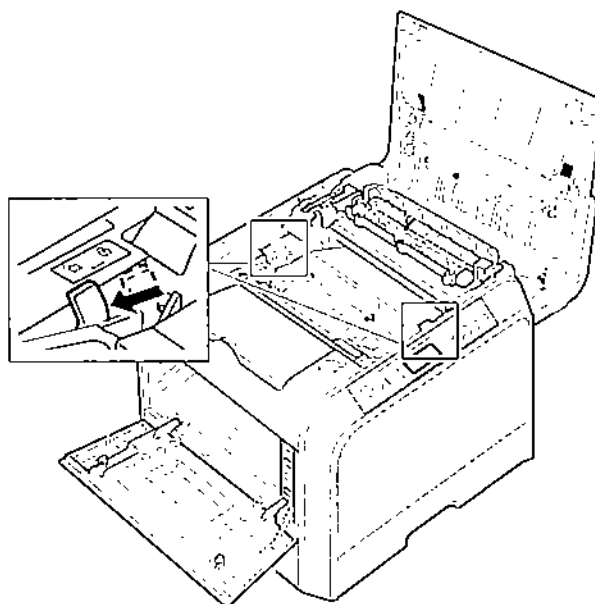
NOTE: While cleaning the inside of the printer, be careful not to touch the transfer roller. Oil from your fingers can cause print quality problems.

- 1 Turn the printer off and unplug the power cord, then wait a few minutes for the printer to cool.
- 2 Using the handle, completely open the left cover until it is at right angles to the main frame. The toner cartridges will disengage automatically.

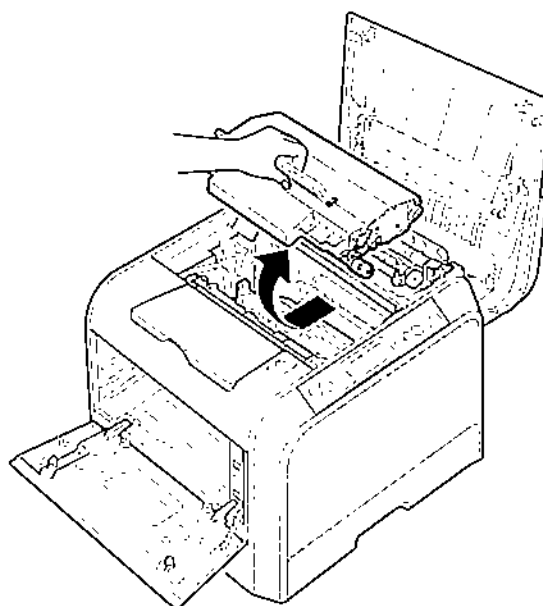


CAUTION: If the left cover is not completely open, the top cover release button will remain locked.

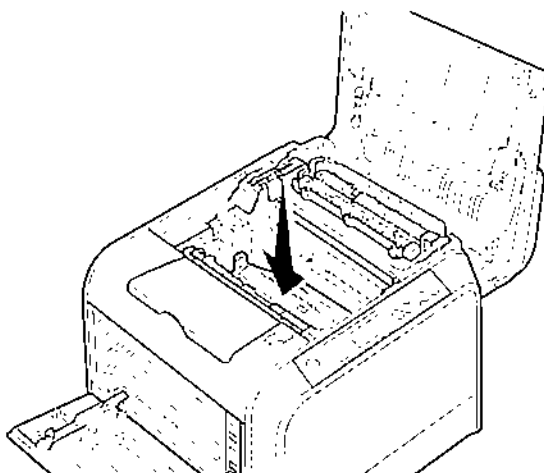
- 5** Pull the lock levers on each side toward you, as shown below, to release the transfer belt.



- 6** Using the handle, lift the transfer belt out of the printer by lightly pulling it toward the left of the printer. Set it on a clean flat surface.

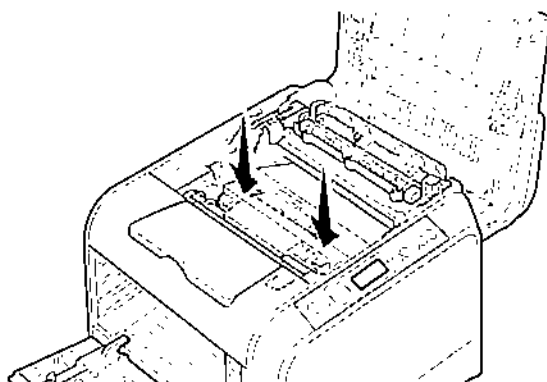


- 9** Insert the imaging unit back into the printer. Make sure you hear it click, and then fold the handle down. For details, see steps 9 to 10 on page 6.17~6.18.



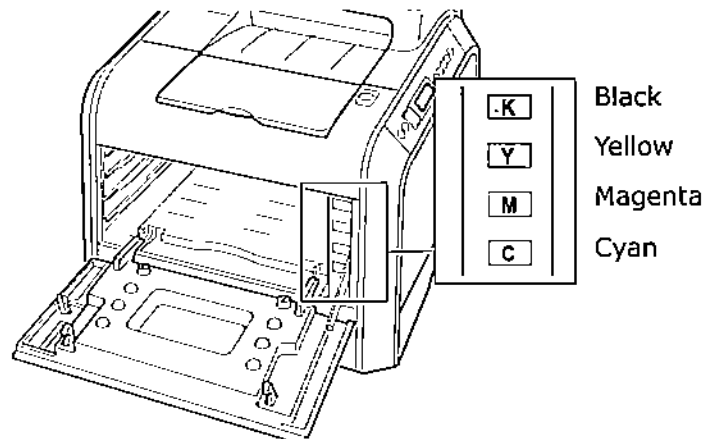
CAUTION: Replace the imaging unit carefully so as not to scratch or damage the surface of the green roller on the imaging unit.

- 10** Insert the transfer belt back into the printer. Press it firmly to make sure it fits into place. For details, see steps 9 and 10 on page 6.25~6.26.

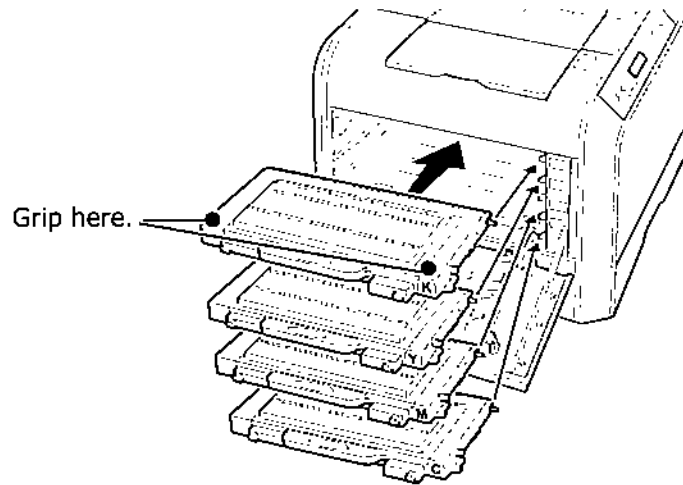


NOTE: Keep the transfer belt level. Do not turn the transfer belt over, or loose toner may be spilled.

- 13** Look inside the printer on the right and then locate the colors of the toner cartridges that matches the colors of the slots.



- 14** Holding each toner cartridge with both hands, insert them into their corresponding positions in the following order: Cyan, Magenta, Yellow, and then Black. Then use the handle to fully slide the cartridge in.



When the toner cartridges are correctly installed, the yellow and black cartridges will not be fully inserted. These will automatically move into place when you close the left cover.

Replacement Parts

From time to time, you will need to replace the roller and fuser unit to maintain top performance and avoid print quality problems and paper feed problems resulting from worn parts.

The following items should be replaced after you have printed the specified number of pages. See the table below.

Item	Approx.
Pick-up roller	Approx. 150,000 pages
Transfer roller	Approx. 50,000 pages
Fuser unit	Approx. 100,000 black pages (50,000 color pages)

To purchase replacement parts, contact your Samsung dealer or the retailer where you bought your printer. We strongly recommend that items be installed by a trained service professional.

Managing the Printer from the Website

Via your printer's website, you can set the printer to send email notifications to a specified address.

To access the printer's website:

- 1 Start a web browser, such as Internet Explorer from Windows.
- 2 Enter the printer's IP address ([http:// xxx.xxx.xxx](http://xxx.xxx.xxx)) in the address field and press the **Enter** key or click **Go**.

Your printer's embedded web page opens.

Recipient List & Conditions

Configure the settings to receive an e-mail from the printer.

The following items can be configured:

- **System Admin E-mail Address:** Enter the e-mail address of the system administrator.
- **Key User E-mail Address:** Enter the user's e-mail address to which the printer should send email notifications.
- **Service E-mail Address:** Enter the e-mail address of a service center or service representative.
- **Consumable Shortage Warning:** Select to whom the printer will send a warning message when approximately 10% of a consumable item remains.
- **Consumable & Printer Setup Review:** Select to whom the printer will send the status message of the printer and consumables each time the printer prints 1000 pages.
- **History:** Select to whom the printer will send a history of the replacement time of the consumables and error messages.
- **Alert:** Select to whom the printer will send recent error messages.
- **Select Notifications:** Set whether or not you want to receive each notification.

Toner Ordering System

The Toner order system allows the printer, when it senses that the toner cartridge is nearly empty, to send an order for toner to a specified address.

Configure the settings to enable the toner order system.

The following items can be configured:

- **Enable:** Select whether or not the printer sends an email when it is low on toner.
- **Phone number:** Enter the Samsung dealer's or the retailer's phone number.
- **E-mail:** Enter the Samsung dealer's or the retailer's e-mail address.
- **URI:** Enter the Samsung dealer's or the retailer's URI.

MEMO



Troubleshooting Checklist

If the printer is not working properly, consult the following checklist. If the printer does not pass a step, follow the corresponding troubleshooting suggestions.

Problem	Solution
Make sure that the On Line/Continue button on the control panel is green and "Ready" is shown on the display.	<ul style="list-style-type: none">• If the button backlight is off, check the power cord connection. Check the power switch. Check the power source by plugging the power cord into another outlet.• If the button backlight is orange, check the display message and go to "Understanding Display Messages" on page 7.26.
Print a demo page to verify that the printer is feeding paper correctly. See the Setup Guide supplied with your printer.	<ul style="list-style-type: none">• If a demo page does not print, check the paper supply in the paper tray.• If the paper jams in the printer, go to "Clearing Paper Jams" on page 7.6.• If an error message appears on the display, go to "Understanding Display Messages" on page 7.26.
Check the demo page to see if it is printed correctly.	If there is a print quality problem, go to "Solving Print Quality Problems" on page 7.22.
Print a short document from a software application to verify that the computer and printer are connected and are communicating correctly.	<ul style="list-style-type: none">• If the page does not print, check the cable connection between the printer and the computer.• Check the print queue or print spooler to see if the printer has been paused.• Check the software application to ensure that you are using the proper printer driver and communication port. If the page is interrupted during printing, go to "Solving General Printing Problems" on page 7.3.
If completing the checklist does not resolve the printer problem, check the following troubleshooting sections.	<ul style="list-style-type: none">• See "Solving General Printing Problems" on page 7.3.• See "Understanding Display Messages" on page 7.26.• See "Common Windows Problems" on page 7.30.• See "Common Macintosh Problems" on page 7.31.• See "Common Linux Problems" on page 7.31.

Problem	Possible Cause	Solution
Paper does not feed into the printer.	Paper has been loaded incorrectly.	Remove paper from the tray and reload it correctly. Check that the paper size adjusters are set correctly.
	There is too much paper in the paper tray.	Remove excess paper from the tray.
	The paper is too thick.	Use only paper that meets the specifications required by the printer.
Print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page(s) or try adjusting the print quality settings. Adjust the print quality settings, such as reducing the resolution. If you have set the resolution to 1200 dpi [Best] , change it to 600 dpi [Normal] . Change the port setting to the USB or network port to improve print speed. Your printer prints A4-sized paper at 24 ppm and letter-sized paper at 25 ppm in black & white mode. In color mode, A4/letter-sized paper prints at 6 ppm.
	If using Windows 9x/Me, the Spooling Setting may be set incorrectly.	From the Start menu, choose Settings and Printers . Right-click the Samsung CLP-510 Series printer icon, choose Properties , click the Details tab, and then choose the Spool Settings button. Select the desired spool setting.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See page 4.6.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

Problem	Cause	Solution
The printing quality of photos is not clear.	The resolution is set to 600 dpi [Normal] .	Change the resolution to 1200 dpi [Best] and then try to print again.
	The resolution of the photo is very low.	If you increase the photo size in the software application, the resolution will be reduced. Reduce the photo size and then improve the resolution.
Your printer has a odd smell during the initial use.	The oil used to protect the fuser is evaporating.	After printing about 100 color pages, there will be no more smell. It is a temporary problem.

Clearing Paper Jams



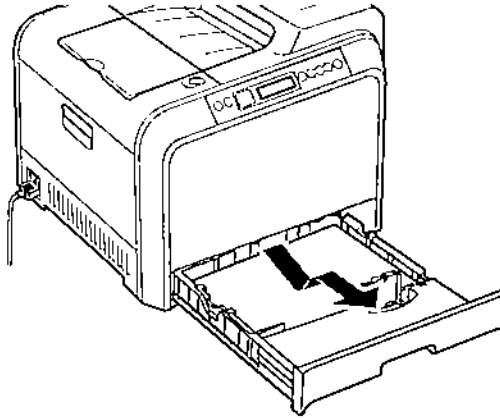
NOTE: When removing paper that is jammed in the printer, if possible always pull the paper in the direction that it normally moves so as not to damage internal components. Always pull firmly and evenly; do not jerk the paper. If the paper tears, ensure that all fragments of paper are removed; otherwise a jam will occur again.

The display on the control panel tells you where a paper jam has occurred. Refer to the table below to locate the paper jam and to clear it:

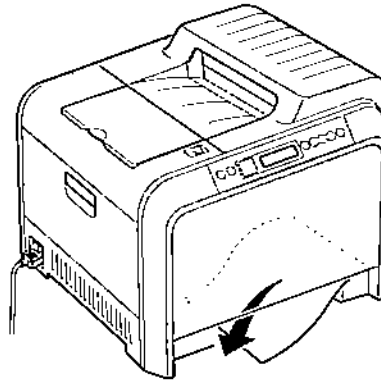
Message	Location	Page
Jam0 In Tray1	In the paper feed area	page 7.7
Jam0 In MP Tray	In the multi-purpose tray	page 7.9
Jam Inside Printer	Inside printer	page 7.9
Jam In Exit Area	In the paper exit area	page 7.10
Jam In Duplex Path	In the duplex area	page 7.13
Jam0 In Tray2	In the optional tray 2	page 7.17

To resume printing after clearing paper jams, you must open and close the right cover.

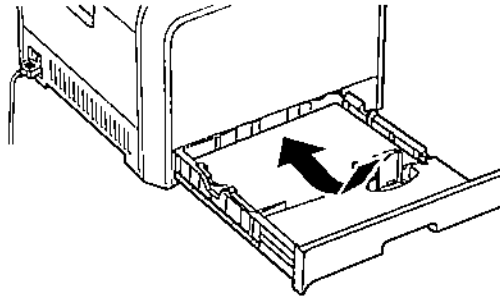
- 3** Pull the tray open. After you pull it all the way out, lift up the front part of the tray slightly to release the tray from the printer.



- 4** Remove the jammed paper by gently pulling it straight out as shown below.

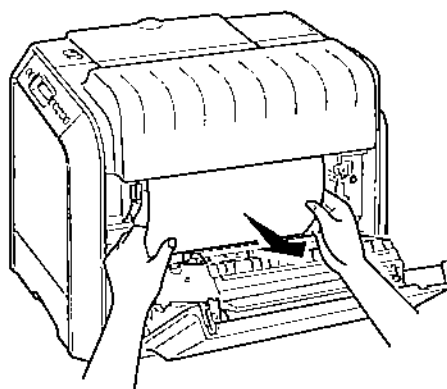


- 5** To replace the tray, lower the rear edge, align it with the slot, and slide it into the printer.



- 6** Close the right cover. The printer will resume printing.

- 2 Remove the jammed paper in the direction shown. To avoid the paper tearing, pull it out gently and slowly.



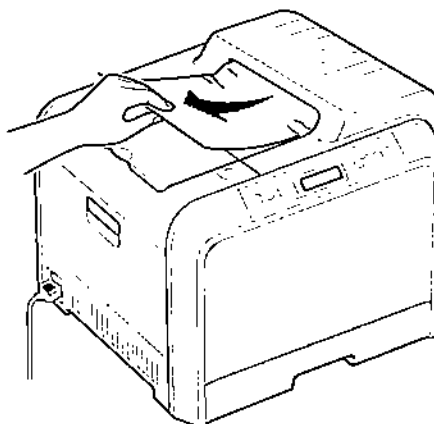
NOTE: If the paper tears, make sure that all of the paper fragments are removed from the printer.

- 3 Close the right cover. The printer will resume printing.

In the Paper Exit Area

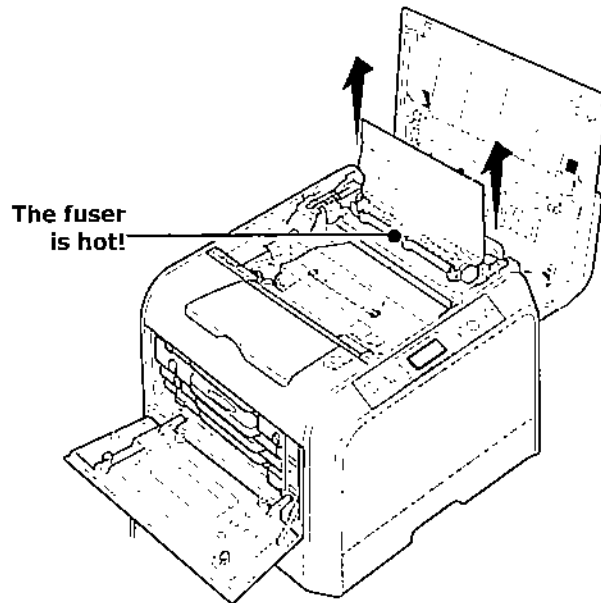
If paper is jammed in the paper exit area, "Jam In Exit Area" appears on the display.

- 1 If a long portion of the paper is visible, pull it straight out. Go to step 7.



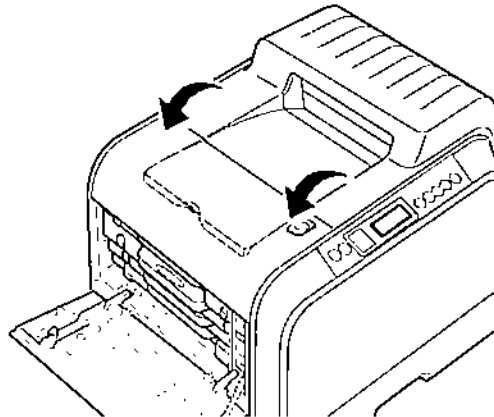
If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to step 2.

- 4 Carefully take the jammed paper out of the printer.



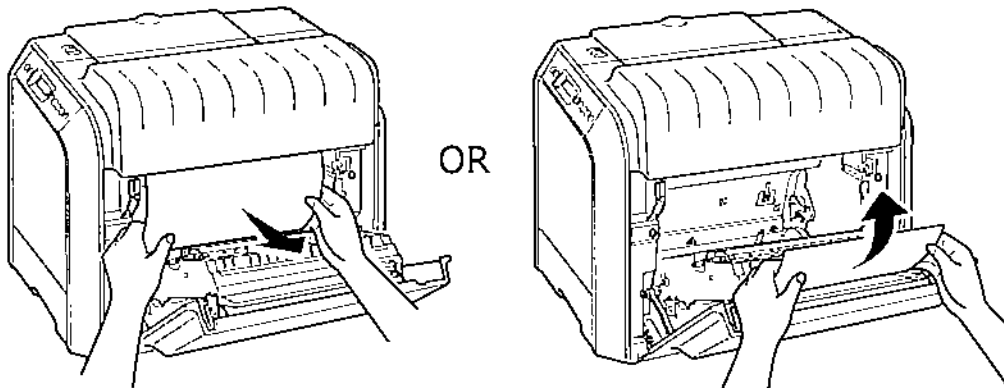
CAUTION: Do not touch the fuser. It is hot and could cause burns! The fuser's operating temperature is 180°C (356° F). Take care when removing paper from the printer.

- 5 After making sure that the left cover is open, close the top cover. Make sure that it is securely latched.



CAUTION: Do not try to close the left cover with the top cover open. This may cause damage to the printer.

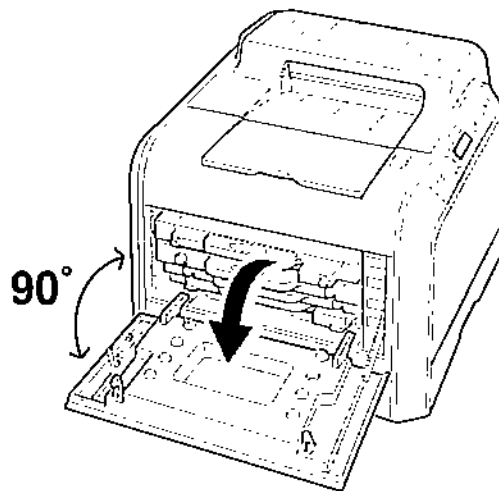
- 2** Locate the jammed paper, and then pull it out gently and slowly to avoid the paper tearing. Go to step 8.



NOTE: If the paper tears, make sure that all of the paper fragments are removed from the printer.

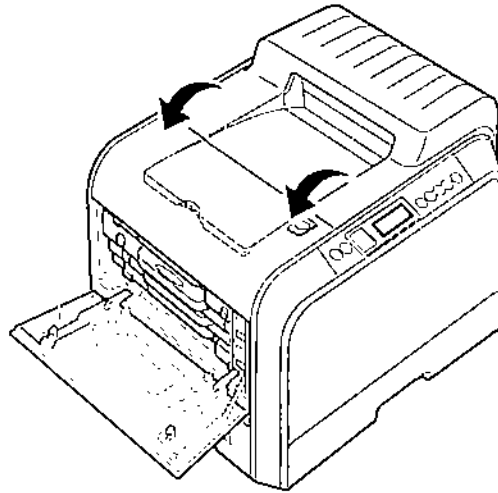
If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to step 3.

- 3** Using the handle, completely open the left cover until it is at right angles to the main frame. The toner cartridges will disengage automatically.



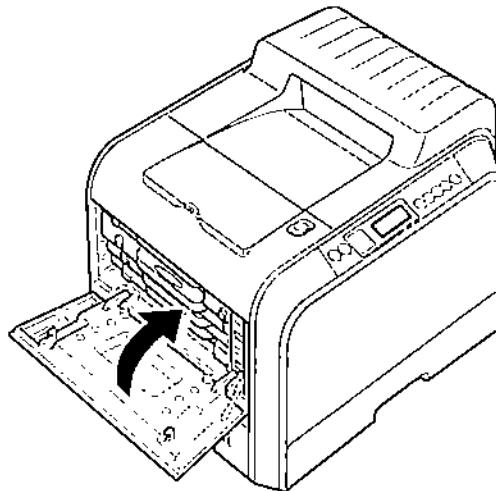
CAUTION: If the left cover is not completely open, the top cover release button will remain locked.

- 6** After making sure that the left cover is open, close the top cover. Make sure that it is securely latched.



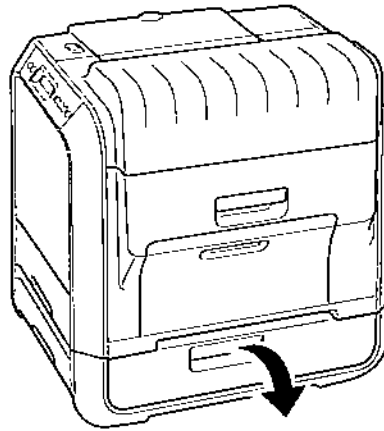
CAUTION: Do not try to close the left cover with the top cover open. This may cause damage to the printer.

- 7** Close the left cover firmly.

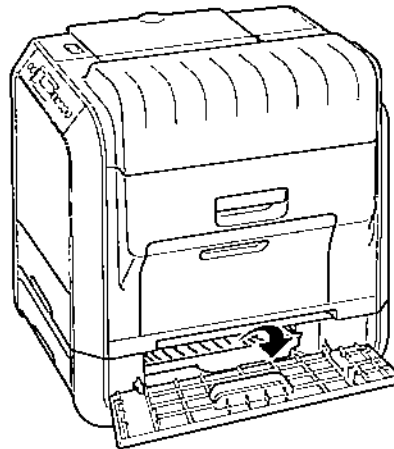


- 8** Close the right cover. The printer will resume printing.

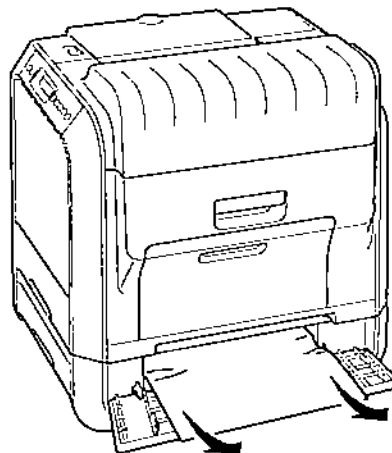
- 3** Open the outer jam cover in Tray 2.



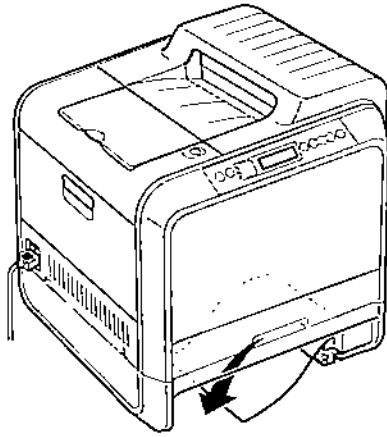
- 4** Open the inner cover of Tray 2.



- 5** Pull the jammed paper out in the direction shown. To avoid the paper tearing, pull it out gently and slowly.

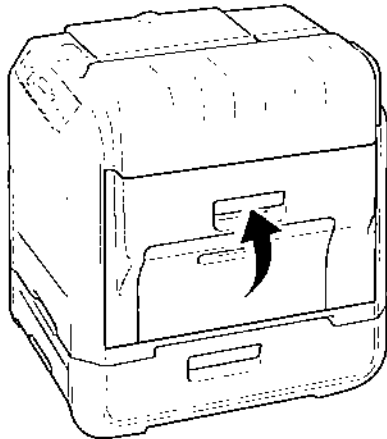


- 8** If you see the jammed paper, remove the paper from the printer by gently pulling it straight out as shown below.



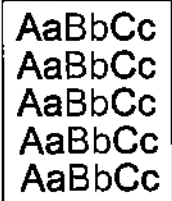
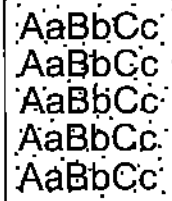
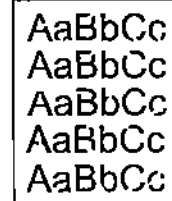
- 9** Slide the tray back into the printer and close the two jam covers.

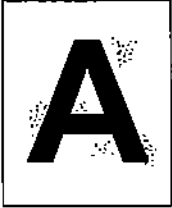
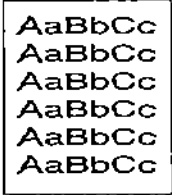
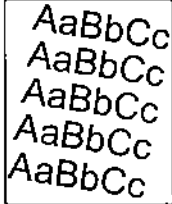
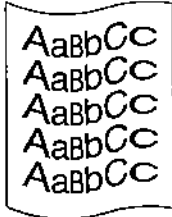
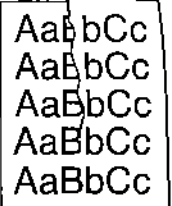
- 10** Open and close the right cover. The printer will resume printing.

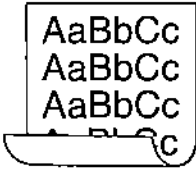


Solving Print Quality Problems

Dirt inside of the printer or improper paper loading may reduce print quality. See the table below to troubleshoot the problem.

Problem	Solution
Light or faded print 	<p>If a vertical white streak or faded area appears on the page:</p> <ul style="list-style-type: none"> • The toner supply is low. You may be able to temporarily extend the toner cartridge life. See "Redistributing Toner" on page 6.5. If this does not improve print quality, install a new toner cartridge. • The paper may not meet paper specifications (for example, the paper is too moist or too rough). See "Paper Specifications" on page E.4. • A combination of faded or smeared defects may indicate that the printer needs cleaning. See page 6.30. • The surface of the LSU may be dirty. Clean the LSU. See page 6.29.
Toner specs 	<ul style="list-style-type: none"> • The paper may not meet specifications (for example, the paper is too moist or too rough). See "Paper Specifications" on page E.4. • The transfer roller or the paper path may be dirty. See "Cleaning the Inside of the Printer" on page 6.30.
Dropouts 	<p>If generally rounded, faded areas occur randomly on the page:</p> <ul style="list-style-type: none"> • A single sheet of paper may be defective. Try reprinting the job. • The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. See "Paper Specifications" on page E.4. • The paper lot is bad. The manufacturing process can cause some areas to reject toner. Try a different kind or brand of paper. • The toner cartridge may be defective. See "Vertical repetitive defects" on the next page. • If these steps do not correct the problems, contact a service representative.

Problem	Solution
<p>Background scatter</p> 	<p>Background scatter results from bits of toner distributed on the printed page.</p> <ul style="list-style-type: none"> • The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. • If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. • If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or via the printer properties window.
<p>Misformed characters</p> 	<ul style="list-style-type: none"> • If characters are improperly formed and producing hollowed images, the paper stock may be too slick. Try a different paper. See "Paper Specifications" on page E.4. • If characters are improperly formed and producing a wavy effect, the scanner unit may need service. Verify that it also occurs on a demo page. Refer to the Setup Guide. For service, contact a service representative.
<p>Page skew</p> 	<ul style="list-style-type: none"> • Ensure that the paper is loaded properly. • Check the paper type and quality. See "Paper Specifications" on page E.4. • Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.
<p>Curl or wave</p> 	<ul style="list-style-type: none"> • Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl. See "Paper Specifications" on page E.4. • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
<p>Wrinkles or creases</p> 	<ul style="list-style-type: none"> • Ensure that the paper is loaded properly. • Check the paper type and quality. See "Paper Specifications" on page E.4. • Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.

Problem	Solution
Curl 	<p>If the printed paper is curled or paper does not feed into the printer:</p> <ul style="list-style-type: none"> Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.

Understanding Display Messages

Messages appear on the control panel display to indicate the printer's status or errors. Refer to the tables below to understand the messages' meaning and correct the problem if necessary. Messages and their meanings are listed in alphabetical order.



NOTE: When you call for service, it is very helpful to tell the service representative the display message.

Message	Meaning	Solution
ADC Not Confirm Error	A problem has occurred in the ADC in the printer.	Contact a service representative.
Cover Open	The top cover is open.	Close the top cover firmly.
[Color] Toner Empty	The corresponding toner cartridge in your printer is empty and the printer working.	Replace the corresponding toner cartridge with a new one. See page 6.8.
Dev. Motor Error	A problem has occurred in the development motor of the printer.	Unplug the power cord and plug it in again. If the problem persists, call for service.
Engine Fuser Low Heat Error	The temperature in the fuser is abnormally low.	Unplug the power cord and plug it in again. If the problem persists, call for service.
Engine Fuser Over Heat Error	The temperature in the fuser is abnormally high.	Unplug the power cord and plug it in again. If the problem persists, call for service.

Message	Symptoms	Solutions
Jam Inside Printer	A paper jam has occurred inside the printer.	Open the right cover and remove the jammed paper from the printer, referring to page 7.9.
Lever Unlocking Error	After installing a transfer belt, the lock levers has not been locked.	Push the lock levers on each side away from you, referring to page 6.27.
Press Continue Button	The printer is waiting for the user's action before printing from the manual feeder.	Load a sheet of print material and press the On Line/Continue button. You need to press the button for each page to be printed.
Load [Size] In Tray1 Load [Size] In Tray2 Load [Size] In MP	The paper size specified in the printer properties does not match the paper you are loading.	Load the correct paper in the tray
Main Motor Error	A problem has occurred in the main motor of the printer.	Unplug the power cord and plug it in again. If the problem persists, call for service.
Memory Overflow	The printer does not have enough memory to print the current job. An error has occurred in the firmware program of the printer.	The job automatically clears and the printer returns to Standby Mode. • Expand the memory in your printer. See "Installing Additional Printer Memory" on page D.2.
Paper Empty [Size] In Tray1 Paper Empty [Size] In Tray2 Paper Empty [Size] In Mp Paper Empty [Size] In Manual	The paper tray has run out of paper.	Load paper in the paper tray. See page 3.4.
Page Too Complex	Too much complicated data was sent to the printer.	Simplify the page layout and remove unnecessary graphics from your document. To expand the memory in your printer, see "Installing Additional Printer Memory" on page D.2.
Ready [Color]Low Toner	The corresponding toner cartridge in your printer is low on toner.	Redistribute the toner in the corresponding toner cartridge, referring to page 6.5.

7.28 SOLVING PROBLEMS

Message	Problem	Solution
Transfer Belt Error	The transfer belt is either not working or not correctly installed in the printer.	Replace the transfer belt. OR Make sure the installed transfer belt is properly seated.
Tray2 Error	Optional Tray2 is not properly installed or connected to the printer.	After turn the printer off and then back on, reinstall the optional tray2. If the message persists, contact a service representative.
Tray2 Jam Cover Open	Tray2 jam cover is open.	Close Tray2 cover firmly.
Waste Motor Error	A problem has occurred in the waste toner motor.	Contact a service representative.
Replace/Install Waste Toner Tank	The waste toner container is full.	Replace the waste toner container with a new one. See page 6.11.

Common Windows Problems

Problem	Solution
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"Error Writing to LPTx" message appears.	<ul style="list-style-type: none"> • Ensure that the cables are connected correctly and the printer is on. • If bi-directional communication is not turned on in the driver, it will also cause this message.
"General Protection Fault", "Exception OE", "Spool32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A printer timeout error occurred." messages appear.	These messages may appear during printing. Just keep waiting until the printer finishes printing. If the message appears in standby mode or after printing is complete, check the connection and/or whether an error occurred.



NOTE: Refer to the Microsoft Windows 9x/Me/NT 4.0/2000/2003/XP User's Guide that came with your PC for further information on Windows error messages.

Problem	Possible Cause and Solution
I can't make a printer the system default.	<p>In some conditions, it may not be possible to change the default queue. This happens with some variants of LPRng, especially on recent RedHat systems that use the "printconf" database of queues.</p> <p>When using printconf, the /etc./printcap file is automatically refreshed from the database of printers managed by the system (usually through the "printtool" command), and the queues in /etc./printcap.local are appended to the resulting file. The default queue in LPRng is defined as the first queue in /etc./printcap, therefore it is not possible for the Linux Printer Package to change the default when some queues have otherwise been defined using printtool.</p> <p>LPD systems identify the default queue as the one named "lp". Thus, if there is already a queue by this name, and if it doesn't have an alias, then you won't be able to change the default. To work around this, you can either delete the queue or rename it by manually editing the /etc./printcap file.</p>
The N-up setting does not work correctly for some of my documents.	<p>The N-up feature is achieved through post-processing of the PostScript data that is being sent to the printing system. However, such post-processing can only be adequately achieved if the PostScript data conforms to the Adobe Document Structing Conventions. Problems may arise when using N-up and other features relying on post-processing if the document being printed isn't compliant.</p>
I am using BSD lpr (Slackware, Debian, older distributions) and some options chosen in LLPR don't seem to take effect.	<p>Legacy BSD lpr systems have a hard limitation on the length of the option string that can be passed to the printing system. As such, if you selected a number of different options, you may have exceeded the length of the options and some of your choices won't be passed to the programs responsible for implementing them. Try to select fewer options that deviate from the defaults, to save on memory usage.</p>
I am trying to print a document in Landscape mode, but it prints rotated and cropped.	<p>Most Unix applications that offer a Landscape orientation option in their printing options will generate correct PostScript code that should be printed as is. In that case, you need to make sure that you leave the LLPR option set to its default Portrait setting, to avoid unwanted rotations of the page that would result in cropped output.</p>
Some pages come out all white (nothing is printed), and I am using CUPS.	<p>If the data being sent is in Encapsulated PostScript (EPS) format, some earlier versions of CUPS (1.1.10 and before) have a bug preventing them from being processed correctly. When going through LLPR to print, the Printer Package will work around this issue by converting the data to regular PostScript. However, if your application bypasses LLPR and feeds EPS data to CUPS, the document may not print correctly.</p>

Problem	Possible Cause and Solution
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com .



Installing Software for Macintosh

The CD-ROM that came with your printer provides you with the PPD file to use the CUPS driver, Apple LaserWriter driver, for printing on a Macintosh computer.

Refer to the table below for the driver available for your printer, and for system requirements.

Printer model	Available driver	Interface	System requirements
CLP-510 CLP-510N	CUPS driver	USB interface	Mac OS 10.3.x
		Network interface	

Verify the following before you install the printer software:

Operating system	Mac OS 10.3.x
RAM	128 MB
Free disk space	200 MB

- 1 Make sure that you connect the printer to the computer.
Turn on your computer and printer.
- 2 Insert the CD-ROM which came with your printer into the CD-ROM drive.
- 3 Double-click the **SAMSUNG_CLP** on your Macintosh desktop.
- 4 Double-click the **Installer** folder.
- 5 Double-click the **Samsung SPLC Installer** icon.
- 6 Enter the password and click **OK**.
- 7 Click **Continue** and then click **Continue**.

Setting Up the Printer

Set up for your printer will be different depending on which cable you use to connect the printer to your computer—the network cable or the USB cable.

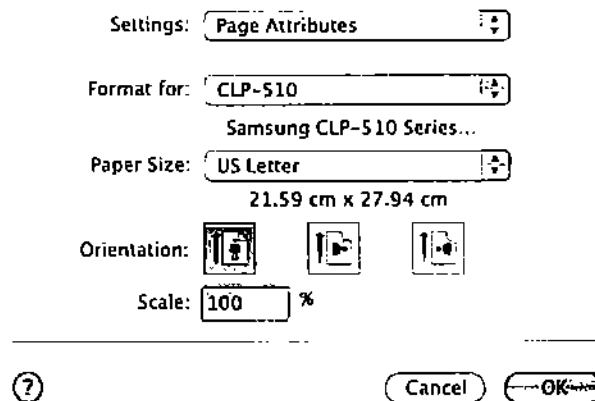
For a Network-connected Macintosh

- 1 Follow the instructions on page A.2 to install the PPD file on your computer.
- 2 For Macintosh OS 10.3.x, open **Print Setup Utility** from the Utilities folder.
- 3 Click **Add** on the Printer List.
- 4 Select the **IP Printing** tab.
- 5 Enter the printer's IP address in the **Printer Address** field.
- 6 Enter the queue name in the **Queue Name** field. If you cannot determine the queue name for your printer server, try using the default queue first.
- 7 Select **Samsung** in Printer Model and **CLP-510** in Model Name.
- 8 Click **Add**.
- 9 Your printer's IP address appears on the Printer List, and is set as the default printer.

Printing a Document

When you print with a Macintosh, you need to check the printer software setting in each application you use. Follow these steps to print from a Macintosh.

- 1 Open a Macintosh application and select the file you want to print.
- 2 Open the **File** menu and click **Page Setup (Document Setup)** in some applications).
- 3 Choose your paper size, orientation, scaling, and other options and click **OK**.



▲ Mac OS 10.3

- 4 Open the **File** menu and click **Print**.
- 5 Choose the number of copies you want and indicate which pages you want to print.
- 6 Click **Print** when you finish setting the options.

Canceling a Print Job

To cancel a print job, press the **Cancel** button (⊗) on the control panel. The printer finishes printing the page that is moving through the printer and deletes the rest of the print job.

Duplex Printing

You can print on both sides of the paper. Before printing in the duplex mode, decide on which edge you will be binding your finished document. The binding options are:

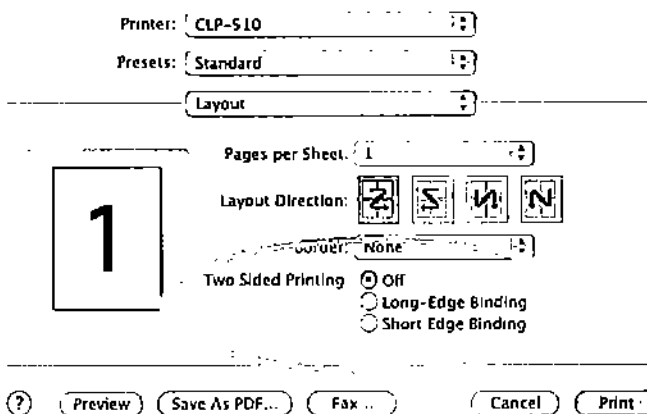


CAUTION: If you have selected duplex printing and then try to print multiple copies of a document, the printer may not print the document in the way you want. In case of "Collated copy", if your document has odd pages, the last page of the first copy and the first page of the next copy will be printed on the front and back of one sheet. In case of "Uncollated copy", the same page will be printed on the front and back of one sheet. Therefore, if you need multiple copies of a document and you want those copies on both sides of the paper, you must print them one at a time, as separate print jobs.

Long-Edge Binding: Which is the conventional layout used in book binding.

Short-Edge Binding: Which is the type often used with calendars.

- 1 From your Macintosh application, select **Print** from the **File** menu.
- 2 Select the **Layout**.



▲ Mac OS 10.3

- 3 Select a binding orientation from **Two Sided Printing** option.
- 4 Click **Print** and the printer prints on both sides of the paper.

MEMO



A.10

Installing the Printer Driver

System Requirements

Supported OS

- Redhat 6.2/7.0/7.1 and above
- Linux Mandrake 7.1/8.0 and above
- SuSE 6.4/7.0/7.1 and above
- Debian 2.2 and above
- Caldera OpenLinux 2.3/2.4 and above
- Turbo Linux 6.0 and above
- Slackware 7.0/7.1 and above

Recommended Capacities

- Pentium IV 1 GHz or higher
- RAM 256 MB or higher
- HDD 1 GB or higher

Software

- Glibc 2.1 or higher
- GTK+ 1.2 or higher
- GhostScript

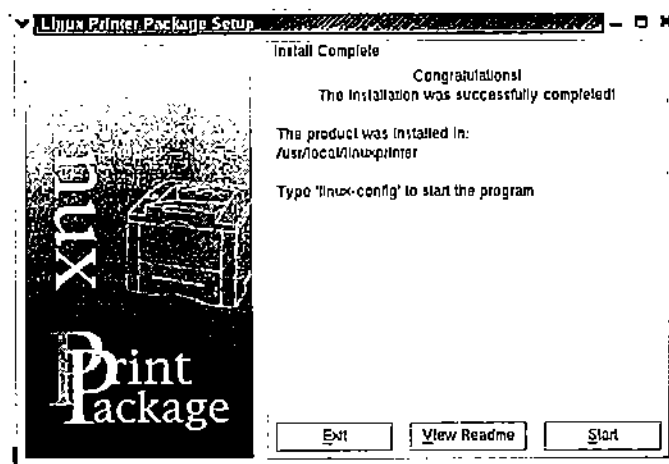
Installing the Printer Driver

- 1** Make sure that you connect the printer to your computer. Turn both the computer and the printer on.
- 2** When the Administrator Login window appears, type in "**root**" in the Login field and enter the system password.



NOTE: You must log in as a super user (root) to install the printer software. If you are not the super user, ask your system administrator.

- 6 The printer driver installation begins. When the installation is complete, click **Start**.

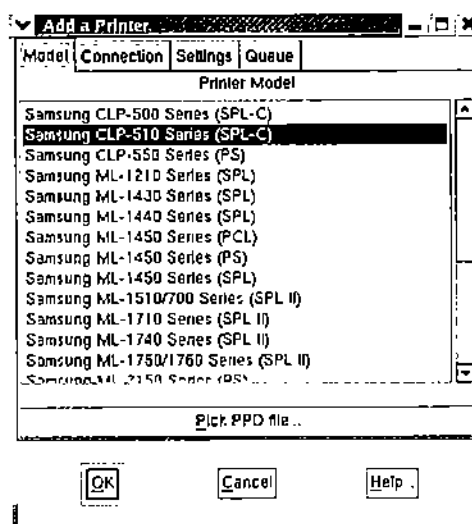


- 7 The Linux Printer Configuration window opens. Click the **Add Printer** icon on the tool bar at the top of the window.



NOTE: Depending on the printing system in use, the Administrator Login window may appear. Type in "root" in the Login field and enter the system password.

- 8 You see the printers currently installed on your system. Select the printer you want to use. The function tabs available for the selected printer appear at the top of the Add a Printer window.



Changing the Printer Connection Method

If you change the printer connection method from USB to parallel or vice versa while in use, you must re-configure your Linux printer by adding the printer to your system. Take the following steps:

- 1 Make sure that you connect the printer to your computer. Turn both the computer and the printer on.
- 2 When the Administrator Login window appears, type in "root" in the Login field and enter the system password.



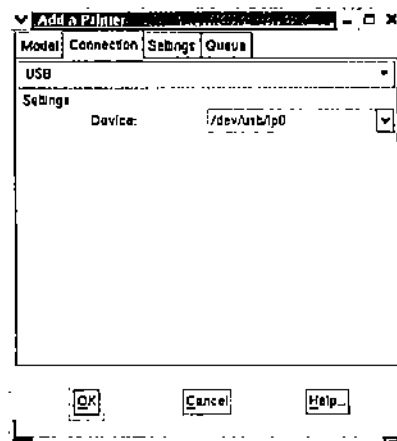
NOTE: You must log in as a super user (root) to install a new printer to the printing system. If you are not the super user, ask your system administrator.

- 3 From the Startup Menu icon at the bottom of the desktop, select **Linux Printer** and then **Configuration Tool**.

You can also access the Linux Printer Configuration window by typing "linux-config" in the Terminal screen.

- 4 When the Linux Printer Configuration window appears, click the **Add Printer** icon on the tool bar at the top of the window.
- 5 Click the **Connection** tab at the top of the Add a Printer window.

Ensure that the printer port is set properly. If not, change the device setting.



- 6 Click **OK**.

- 6 Click **OK** to begin uninstallation.
- 7 When the uninstallation is complete, click **Finished**.

Using the Configuration Tool

The configuration tool accesses administrative tasks, including adding and removing a new printer, and changing their global settings. Regular users can also run it to easily inspect job queues, examine the printer properties and change their local preferences.

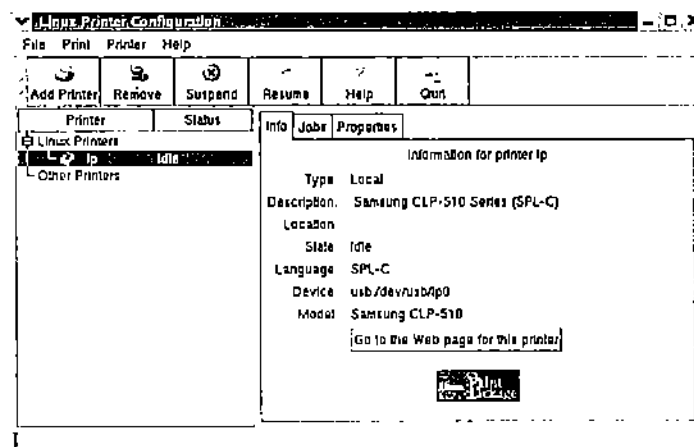
To access the Configuration Tool:

- 1 From the Startup Menu icon at the bottom of the screen, select **Linux Printer** and then **Configuration Tool**. The Linux Printer Configuration window appears.

You can also open this window from the Terminal screen by typing in "**linux-config**."

- 2 The Linux Printer Configuration window shows a list of installed printers in the left pane. The right pane shows a number of tabs that display information regarding the currently selected printer.

Select your printer, if not currently selected.

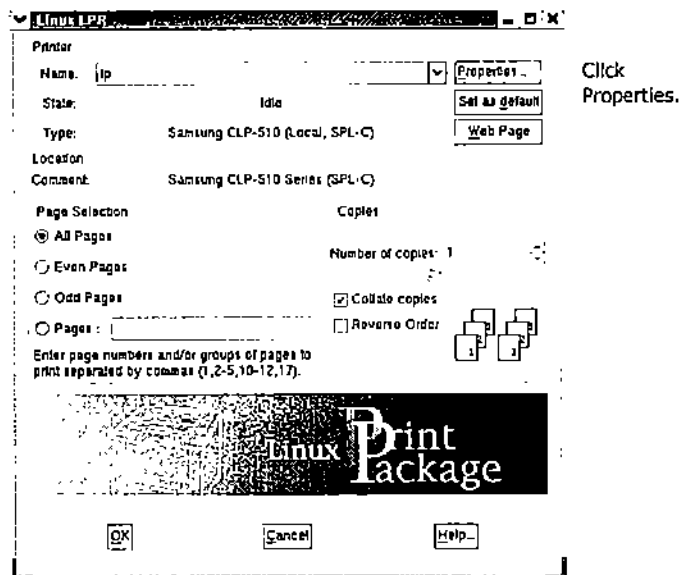


Changing LLPR Properties

You can fine-tune the printer's properties by opening the LLPR Properties window.

To open the LLPR Properties window:

- 1 From the application you are using, select the **Print** command.
- 2 When the Linux LPR window opens, click **Properties**.



You can also open the LLPR window:

- Click the Startup Menu icon at the bottom of the screen and select **Linux Printer** and then **Linux LPR**.
- If the Linux Printer Configuration window is currently open, select **Test Print** from the **Print** menu.

MEMO



B.12 USING YOUR PRINTER IN LINUX

About Sharing the Printer on a Network

If you work in a networked environment, you can connect your printer to the network.

Locally-Shared Printer

You can connect the printer directly to a selected computer, which is called the "host computer" on the network. The printer can then be shared by other users on the network through a Windows 9x/Me/XP/NT 4.0/2000/2003 network printer connection.

Wired Network-connected Printer

A CLP-510N printer has a built-in network interface. For more information about connecting your printer to the network, see page D.11.

To use a CLP-510 printer as a network printer, you need to install an optional network interface card in your printer. See page D.7 for information about installing the card.

Wireless Network-connected Printer

To use your printer in a wireless network environment, you need to install an optional wired/wireless network interface card in your printer. See page D.7.

Printing Across a Network

Whether the printer is locally connected or network-connected, you need to install the CLP-510 series printer software on each computer that prints documents using the printer.

In Windows NT 4.0/2000/2003/XP



NOTE: Windows NT 4.0 is only supported on the CLP-510N.

Setting Up the Host Computer

- 1** Start Windows.
- 2** For Windows NT 4.0/2000, select **Settings**, and **Printers** from the Start menu.

For Windows XP/2003, select **Printers and Faxes** from the Start menu.
- 3** Double-click your printer icon.
- 4** From the **Printer** menu, select **Sharing**.
- 5** For Windows NT 4.0, check the **Shared** box.

For Windows 2000, check the **Shared As** box.

For Windows XP/2003, check the **Share this printer** box.
- 6** Fill in the **Shared Name** field and click **OK**.

Setting Up a Network-Connected Printer

You have to set up the network protocols on the printer to use it as your network printer. Setting protocols can be accomplished by using the supplied network program. Please refer to SyncThru User's Guide.

You can configure the basic network parameters through the printer's control panel. Use the printer control panel to do the following:

- Enable or disable network protocols (IPX/SPX)
- Configure TCP/IP
- Configure IPX frame types

Configuring Network Parameters on the Control Panel

Supported Operating Systems



NOTE: The operating systems supported by the network card may be different than the operating systems supported by the printer. The following table shows the network environments supported by the printer.

Network Environment	Requirements
Network Interface	10/100 Base-TX (standard for CLP-510N) or 802.11b Wireless LAN
Network Operating System	<ul style="list-style-type: none">• Novell NetWare 4.x, 5.x, 6.x• Windows 95/98/Me/NT 4.0/2000/2003/XP• Various Linux OS• Macintosh OS 10.3.x
Network Protocols	<ul style="list-style-type: none">• Netware IPX/SPX• TCP/IP, DLC/LLC on Windows
Dynamic Addressing Server	DHCP, BOOTP

- IPX/SPX: Internet Packet eXchange/Sequenced Packet eXchange
- TCP/IP: Transmission Control Protocol/Internet Protocol
- DLC/LLC: Data Link Control/Logical Link Control
- DHCP: Dynamic Host Configuration Protocol
- BOOTP: Bootstrap Protocol

Configuring TCP/IP

Your printer can be set up on a variety of TCP/IP networks. There are several ways in which your printer can be assigned a TCP/IP address, depending on your network.

- **Static Addressing:** TCP/IP address is assigned manually by the system administrator.
- **Dynamic Addressing BOOTP/DHCP (default):** TCP/IP address is assigned automatically by the server.

Static Addressing

To enter the TCP/IP address from your printer's control panel, take the following steps:

- 1** In ready mode, press the **Menu** button (Ⓜ) until you see "Network" on the bottom line of the display. Press the **Enter** button (Ⓢ) to access the menu.
- 2** Press the **Enter** button (Ⓢ) when "Config Network" displays on the bottom line.
- 3** Press the scroll button (⏪ or ⏩) until "Yes" displays, and press the **Enter** button (Ⓢ).
- 4** Press the **Upper Level** button (Ⓢ), then use the scroll button (⏩).
- 5** Press the **Enter** button (Ⓢ) when "Config TCP" displays.
- 6** Press the scroll button (⏪ or ⏩) until "Yes" displays, and press the **Enter** button (Ⓢ).
- 7** Press the **Upper Level** button (Ⓢ), then use the scroll button (⏩).
- 8** Press the **Enter** button (Ⓢ) when "IP Get Method" displays.
- 9** Press the scroll button (⏪ or ⏩) until "Static" displays, and press the **Enter** button (Ⓢ).
- 10** Press the **Upper Level** button (Ⓢ), then use the scroll button (⏩).
- 11** Press the **Enter** button (Ⓢ) to access the IP Address menu.

- 7** Press the **Upper Level** button (⏮), then use the scroll button (⏭).
- 8** Press the **Enter** button (⌘) when "IP Get Method" displays.
- 9** Press the scroll button (⏮ or ⏭) until "DHCP" displays, and press the **Enter** button (⌘).
- 10** To assign the address from the BOOTP server, press the **Enter** button (⌘) when "BOOTP" displays.
- 11** Press the **On Line/Continue** button (⏪) to return to ready mode.

Configuring IPX Frame Types

On IPX/SPX protocol networks (for example, Novell NetWare), the format of the network communication frames must be specified for the printer. In most cases, you can keep the default setting "Auto". However, you can manually set the frame type format, if required.

- **Auto** (default): Automatically senses and limits the frame type to the first one detected.
- **EN_8023**: Limits the frame type to IPX over IEEE 802.3 frames. All others will be discarded.
- **EN_II**: Limits the frame type to IPX over Ethernet Frames. All others will be discarded.
- **EN_8022**: Limits the frame type to IPX over IEEE 802.2 with IEEE 802.3 frames. All others will be discarded.
- **EN_SNAP**: Limits the frame type to IPX over SNAP with IEEE 802.3 frames. All others will be discarded.

Note that the IPX/SPX protocol must be enabled in the **Netware** menu before you can configure frame types. See "Setting Network Protocols" on page C.7.

Restoring the Network Configuration

You can return the network configuration to its default settings.

- 1 In ready mode, press the **Menu** button (Ⓜ) until you see "Network" on the bottom line of the display.
- 2 Press the **Enter** button (Ⓚ) to access the menu.
- 3 Press scroll button (⏪ or ⏩) until "Default Set" displays on the bottom line. Press the **Enter** button (Ⓚ).
- 4 Press the **Enter** button (Ⓚ) to confirm the selection.

Reset the Network Interface Card

You can reset the network interface card when a network problems occurs.

- 1 In ready mode, press the **Menu** button (Ⓜ) until you see "Network" on the bottom line of the display.
- 2 Press the **Enter** button (Ⓚ) to access the menu.
- 3 Press scroll button (⏪ or ⏩) until "Reset Network" displays on the bottom line. Press the **Enter** button (Ⓚ).
- 4 Press the **Enter** button (Ⓚ).

The printer resets the network interface card.

Configuring the Wireless Network

See the instructions supplied with the wireless network interface card you purchase.

You can easily configure the wireless network environments using the SetIP program in Windows. See the Wireless Network User's Guide.

To configure the wireless settings:

- 1 In ready mode, press the **Menu** button (Ⓜ) until you see "Network" on the bottom line of the display. Press the **Enter** button (Ⓚ) to access the menu.
- 2 Press the **Enter** button (Ⓚ) when "Config Network" displays on the bottom line.

- **Encryption:** "None", "64-bit WEP", or "128-bits WEP".
Default setting is "None". If your network uses WEP encryption keys, you must configure the encryption keys. You can configure up to four keys. The active key must match the value and active key position (for example, Key 1) configured on other wireless devices.
- **Using Key:** Select the key to use in your network.
- **Key Type:** Select the key type of your network.
- **Key 1, Key 2, Key 3, Key 4:** Enter the key number for

"Encryption". The numbers you can enter are as follows:

	64-bit WEP	128-bit WEP
64-bit WEP	10 digits	5 characters
128-bit WEP	26 digits	13 characters



Installing Additional Printer Memory

Your printer has a dual in-line memory module (DIMM) slot. Use this DIMM slot to install more memory for the printer.

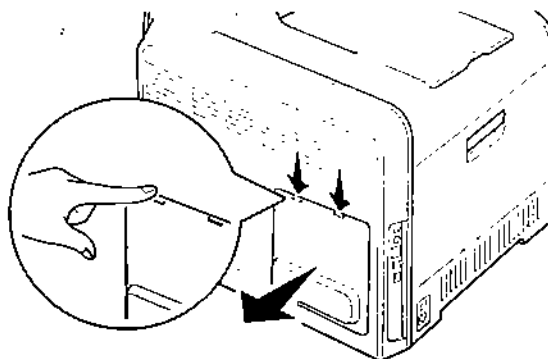


NOTE: Your printer has 64 MB of memory which can be expanded to 192 MB. Use only Samsung-approved DIMM, part numbers ML-00MC (64MB), or ML-00MD (128MB). Contact your Samsung dealer.

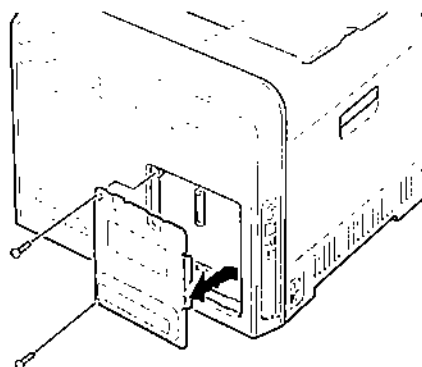


CAUTION: Static electricity can damage DIMMs. When handling a DIMM, either wear an antistatic wrist strap, or frequently touch the surface of the DIMM antistatic package and then touch bare metal on the printer.

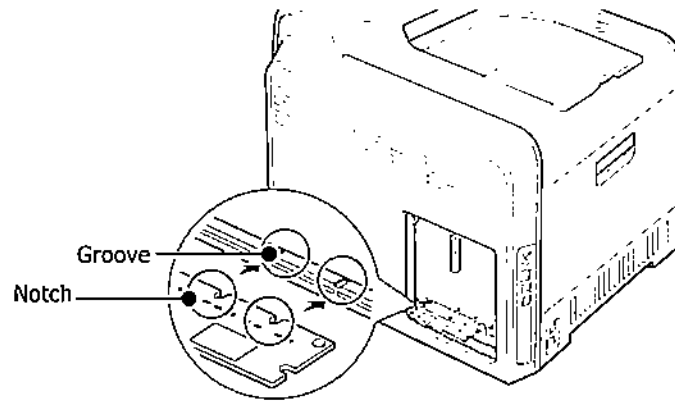
- 1 Turn the printer off and unplug all cables from the printer.
- 2 To remove the control board cover, press down on the tabs at the top and take it off.



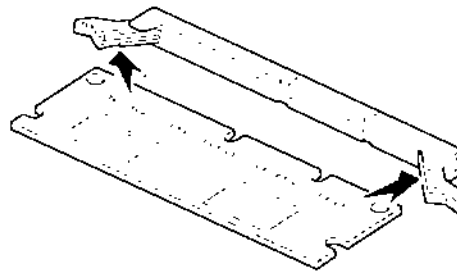
- 3 Remove the two screws holding the metal plate in place, and then remove the metal cover, as shown below.



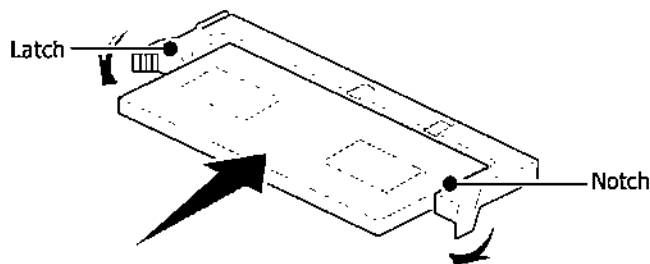
- 6** Holding the memory DIMM by the edges, align the notches on the memory DIMM with the grooves at the top of the memory DIMM slot.



- 7** Insert the ends of the memory DIMM into the slots on the latches.



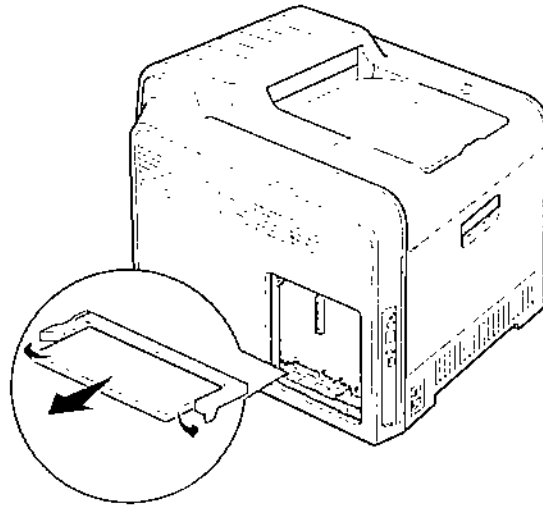
- 8** Push the DIMM straight into the DIMM slot until it snaps into place. Make sure the latches fit over the notches located on either side of the DIMM.



NOTE: If you have difficulty inserting the memory DIMM or closing the latches, make sure the notches on the bottom of the DIMM are aligned with the grooves in the DIMM slot.

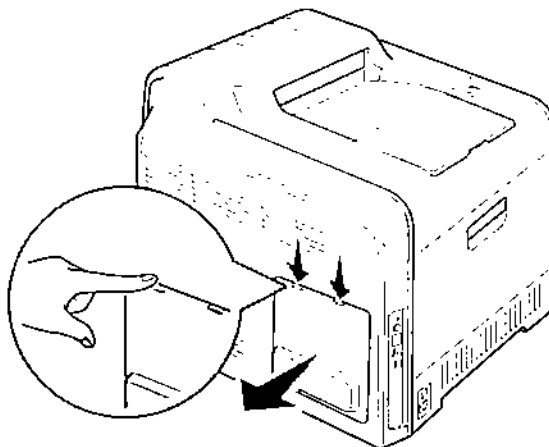
Removing a Memory DIMM

- 1** Follow steps 1 through 3 on page D.2 to access the control board.
- 2** Push the latches at both ends of the DIMM slot away from the DIMM. Pull out the DIMM.

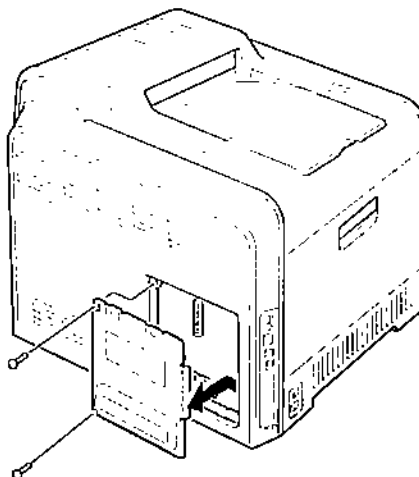


- 3** Place the DIMM in its original packaging or wrap it with a sheet of thin metal, such as aluminium foil, and store it in a box.
- 4** Proceed from step 9 on page D.5.

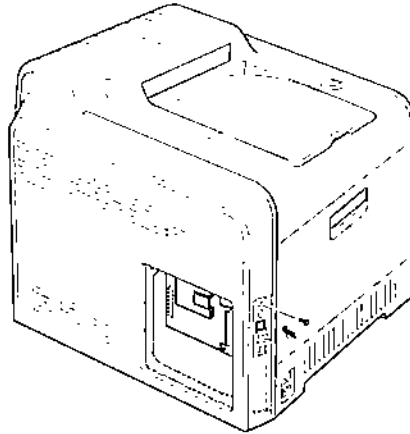
- 2** To remove the control board cover, press down on the tabs at the top and take it off.



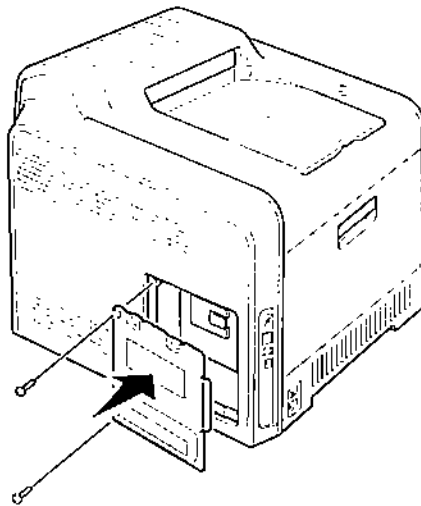
- 3** Remove the two screws holding the metal plate in place, and then remove the metal cover, as shown below.



- 6** Insert the two screws included with the interface card package into the appropriate holes above and below the Ethernet network port, as shown below. Carefully tighten them.



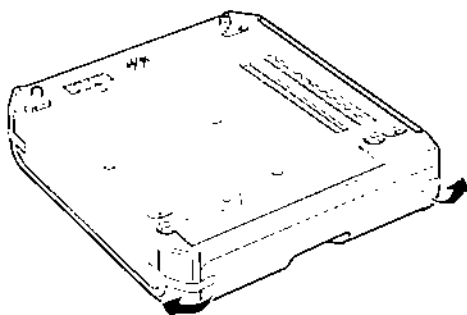
- 7** Replace the metal cover, as shown below, and replace the two screws you removed in step 3.



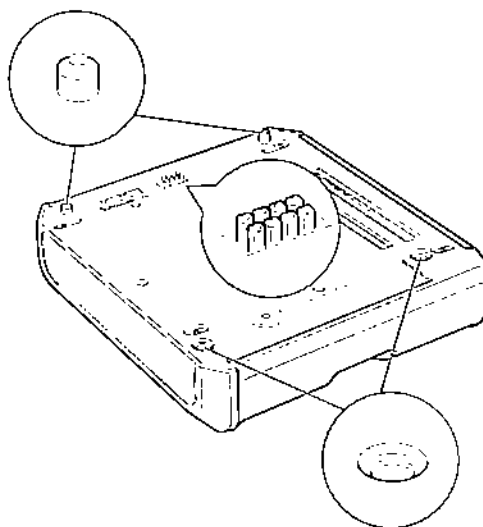
Installing an Optional Tray

You can increase the paper handling capacity of your printer by installing an optional Tray2. This tray holds 500 sheets of paper.

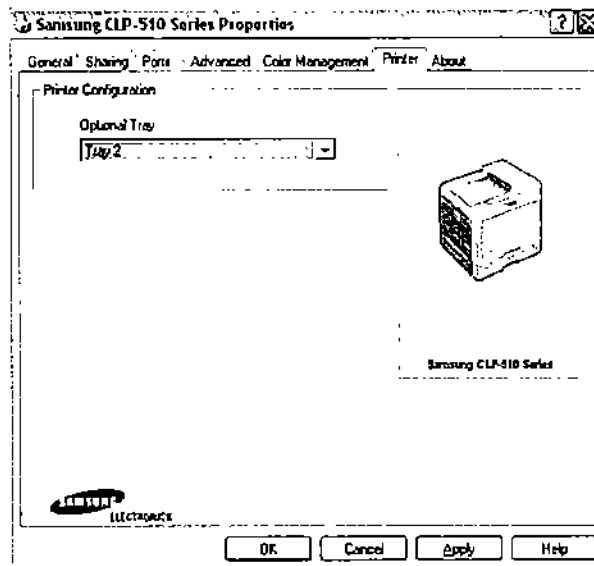
- 1** Turn the printer off and unplug all cables from the printer.
- 2** Remove the packing tape and the packing material inside of the tray.



- 3** Find the location of the connector and the optional tray positioners.



- 4 Right-click on the printer icon and select **Properties**.
- 5 Click the **Printer** tab, and select **Tray 2** from the **Optional Tray** drop-down list.



- 6 Click **OK** and print the document.



Printer Specifications

Item	Specification (Approximate)
Print Speed*	Black: Up to 24 PPM in A4 (25 PPM in Letter); Color: Up to 6 PPM in A4 (6 PPM in Letter) Duplex: Up to 11.6 IPM in A4/Letter (Black); Up to 6 IPM in A4/Letter (Color)
Resolution	Up to 1200 x 1200 dpi effective output
Warm-up Time	Less than 99 seconds(23°C/55% RH, 110/220Vac)
First Printing on Time	13 seconds (Black); 21 seconds (4-Color)
Power Rating	AC 110 ~ 127V (USA, Canada) / 220 ~ 240V (Others), 50 / 60Hz
Power consumption	450 W average during operation / Less than 30 W in sleep mode
Noise Level**	Less than 49 dBA (Color printing) Less than 49.8 dBA (Black printing) Less than 40 dBA (Standby printing)
Consumables Life	<ul style="list-style-type: none"> Black toner cartridge <ul style="list-style-type: none"> - High yield: 7,000 A4/Letter pages at 5% Coverage - Standard yield: 3,000 A4/Letter pages at 5% Coverage (Ships with standard yield toner cartridge) Color (Yellow/Magenta/Cyan) toner cartridge <ul style="list-style-type: none"> - High yield: 5,000 A4/Letter pages at 5% Coverage - Standard yield: 2,000 A4/Letter pages at 5% Coverage (Ships with standard yield toner cartridge) Imaging Unit: Approx. 50,000 black pages (12,500 color pages)*** Transfer Belt: Approx. 50,000 black pages (12,500 color pages)*** Waste Toner Container: Approx. 12,000 black pages (3,000 color pages)***
Duty Cycle	Monthly: Up to 35,000 black pages
Weight	32kg (including consumables)(70.5lbs)
Package Weight	Paper: 3.44 Kg, Plastic: 0.18Kg
External Dimensions (W x D x H)	510 (W) x 470 (D) x 405 (H) mm (20.1 x 18.5 x 15.9 in.)
Operating Environment	Temperature: 15 ~ 32.5°C / 50 ~ 90°F Humidity: 20 ~ 80% RH

Paper Specifications

Overview

Your printer accepts a variety of print materials, such as cut-sheet paper (including up to 100% recycled fiber content paper), envelopes, labels, transparencies and custom-size paper. Properties, such as weight, composition, grain and moisture content, are important factors affecting the printer's performance and the output quality. Paper that does not meet the guidelines outlined in this User's Guide can cause the following problems:

- Poor print quality
- Increased paper jams
- Premature wear on the printer.



NOTES:

- Some paper may meet all of the guidelines in this guide and still not produce satisfactory results. This may be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Samsung has no control.
- Before purchasing large quantities of paper, ensure that the paper meets the requirements specified in this User's Guide.



CAUTION: Using paper that does not meet these specifications may cause problems, requiring repairs. These repairs are not covered by the Samsung warranty or service agreements.

Guidelines for Using Paper

For the best result, use conventional 75g/m² (20lb) paper. Ensure that the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges.

If you are unsure of what type of paper you are loading, such as bond or recycled paper, check the label on the package.

The following problems may cause print quality deviations, jamming or even damage to the printer.

Symptoms	Problem	Solution
Poor print quality or toner adhesion, problems with feeding	Too moist, too rough, too smooth or embossed; faulty paper lot	Try another kind of paper, between 100 ~ 250 Sheffield, 4 ~ 5% moisture content.
Dropout, jamming, curl	Stored improperly	Store paper flat in its moisture-proof wrapping.
Increased gray background shading/printer wear	Too heavy	Use lighter paper, open the rear output tray.
Excessive curl problems with feeding	Too moist, wrong grain direction or short-grain construction	Use long-grain paper.
Jamming, damage to printer	Cutouts or perforations	Do not use paper with cutouts or perforations.
Problems with feeding	Ragged edges	Use good quality paper.



NOTES:

- Do not use letterhead paper printed with low-temperature inks, such as those used in some types of thermography.
- Do not use raised or embossed letterhead.
- The printer uses heat and pressure to fuse toner to the paper. Ensure that any colored paper or preprinted forms use inks that are compatible with this fusing temperature (180°C or 356°F for 0.1 second).

Printer and Paper Storage Environment

Paper storage environmental conditions directly affect the feed operation.

Ideally, the printer and paper storage environment should be at or near room temperature, and not too dry or humid. Remember that paper is hygroscopic; it absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can become distorted. This can cause paper jams.

Care should be taken not to purchase more paper than can be used in a short time (about 3 months). Paper stored for long periods may experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to large supplies of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environment damage, especially if they are not wrapped with a moisture-proof barrier.

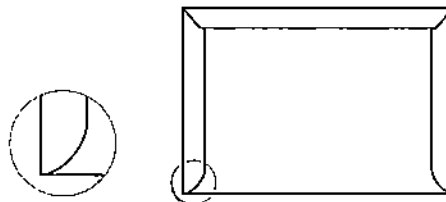
The paper storage environment should be properly maintained to ensure optimum printer performance. The required condition is 20° to 24°C (68° to 75°F), with a relative humidity of 45% to 55%. The following guidelines should be considered when evaluating the paper's storage environment:

- Paper should be stored at or near room temperature.
- The air should not be too dry or too humid.
- The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the printer environment is subject to extremes, unwrap only the amount of paper to be used during the day's operation to prevent unwanted moisture changes.

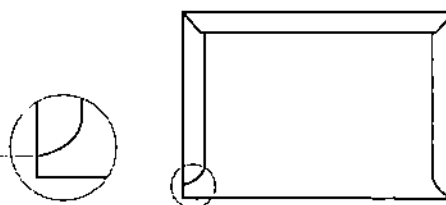
Envelopes with Double Side Seams

Double side-seams construction has vertical seams at both ends of the envelope rather than diagonal seams. This style may be more likely to wrinkle. Be sure the seam extends all the way to the corner of the envelope as illustrated below.

Correct



Incorrect



Envelopes with Adhesive Strips or Flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the heat and pressure in the printer. The extra flaps and strips might cause wrinkling, creasing, or even jams and may even damage the fuser.

Envelope Margins

The following gives typical address margins for a commercial #10 or DL envelope.

Type of Address	Minimum	Maximum
Return address	15mm (0.6in.)	51mm (2in.)
Delivery address	51mm (2in.)	90mm (3.5in.)



NOTES:

- For best print quality, position margins no closer than 15mm (0.6in.) from the edges of the envelope.
- Avoid printing over the area where the envelope's seams meet.

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